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# Special Topics in Intellectual Property

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EDITED BY
**Andrea Twiss-Brooks**

# Special Topics in Intellectual Property

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# Special Topics in Intellectual Property

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# Foreword

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Before agreeing to publish a book, the proposed table of contents is reviewed for appropriate and comprehensive coverage and for interest to the audience. Some papers may be excluded to better focus the book; others may be added to provide comprehensiveness. When appropriate, overview or introductory chapters are added. Drafts of chapters are peer-reviewed prior to final acceptance or rejection, and manuscripts are prepared in camera-ready format.

As a rule, only original research papers and original review papers are included in the volumes. Verbatim reproductions of previous published papers are not accepted.

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# Preface

This book is about the combined fields of Intellection Property and Information Science. At this crossroads are lawyers, educators, intellectual property specialists, searchers, librarians, consultants, etc., each requiring a lengthy list of skills necessary for the job. The results of the work they do is used for business and legal decisions across many sectors of our society, including industry, academia, government, and non-profits, to name a few. This book originated from the American Chemical Society (ACS) Symposium entitled "IP to IP: Intellection Property for Information Professionals", presented in Washington DC on August 19th, 2009. It was organized to highlight the various specialty training, education needed to work in this field, and my role as organizer lead me to bring these presenters together, targeted towards Information Scientists learning about Intellectual Property. Traditional education sources such as universities are represented, and are specialty offerings from the pharmaceutical sector and the United States Patent and Trademark Office (USPTO).

The original six sessions from the Symposium are included in this text as separate chapters:

> Education and Certification of Patent Information Professionals in Europe; The PERI Patent Information Course; Law Librarianship: Exploring current trends in the 21st century; The USPTO: Education of the Inventor Community; Copyright Basics; Recent Developments in Patent Reform

Additional chapters and content have been added to more fully develop this text. Although this Symposium captured several intellectual property topics with current information for mid-2009, this content should still prove to be a valuable resource to the reader in future years.

This material has been published with the sincere hope that it will be a resource to students or others looking to take the next step into intellectual property as a new career choice.

This book would not have been possible without the dedication and effort of our editor, Ms. Andrea Twiss-Brooks. Additionally, we would like to thank each of our authors for their expertise and contributions to this project.

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## Chapter 1

# Special Topics in Intellectual Property and Information: An Introduction

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Most professionals working in the Intellectual Property (IP) field will have a unique story and will have traveled a different career path. Along these different paths, they will have been inspired and educated, or have been advanced in their IP career in various ways. The purpose of this book is to provide both education on certain topics of interest and training information for those both beginning their information careers and pursuing continuing education pathways in Intellectual Property areas. Although many people associate Intellectual Property with lawyers, there are a variety of other professionals working in the field, and this book details many topics of interest to them.

The topic of this book is really an intersection of two fields, Intellectual Property and Information Science.

- Intellectual property – tangible products of the human mind and intelligence entitled to the legal status of personal property, especially works protected by copyright, inventions that have been patented, and registered trademarks. An idea is considered the intellectual property of its creator only after it has been recorded or made manifest in specific form (*1*).
- Information Science – investigates the properties and behavior of information, how it is transferred from one mind to another, and optimal means for making that transfer, in both natural and artificial systems (*2*).

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Currently there are no certifications or particular requirements to work in the Intellectual Property arena. The development of a particular certification for patent searchers is described in a subsequent chapter, “Education and Certification of Patent Information Professionals in Europe”. Also of interest, subjects interviewed in the last chapter, “Interviews with Professionals in the Field” describe the varied training they undertook to reach their respective positions.

Accredited library and information science programs across the country offer specialty courses, including an variety of topics that include IP, however the depth of these topics vary. The nature of graduate coursework does not lend itself to rapidly changing course offerings. A few key current issues have been addressed in this book; however, monitoring recent developments in these issues does represent a challenge.

Specialists, attorneys, searchers, consultants and others working in the areas of Intellectual Property and Information play critical roles in their respective organizations. The results of their work are used for business and legal decisions by the firms, universities, governments, and other organizations which employ them. The IP and Information fields are important because of the direct impact of these decisions, and the value the employers place on them. This book intends to identify the skills needed by professionals in this field, plus explore related topics of interest.

## Scope and Limitations

The following subjects are covered:

1. Information seeking behaviors by legal professionals.
2. Novel approaches to educating the inventor community by the USPTO website.
3. Basic information concerning trademarks and copyright IP.
4. Specialty training course, offered by PERI
5. Certification of patent searchers currently underway in Europe.
6. Careers in Intellectual Property and Information, plus interviews with professionals in the field.
7. Continuous learning opportunities available.

Because of the scope of the original symposium, and the focus of this book, issues dealing with customer service, databases, and database coverage are not covered.

Additional resources, especially those concerning continuous learning, are covered in subsequent chapters, including professional associations, meetings & conferences, publishers, blogs, and discussion groups.

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## Chapter 2

# Copyright in the Information Age

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For centuries, librarians and other information professionals such as those who work in museums, archives, and other information centers have grappled with the legal and ethical considerations that affect the creation, organization, dissemination and use of information. Libraries and information centers typically house collections of copyrighted materials that may potentially pose legal consequences for libraries and library users. Whether the issue is monitoring the amount of photocopies made in a public library or the potential copyright infringement of providing articles for course reserves in a university library; librarians find themselves in the position of balancing the needs of the user with the rights of the creator. With the information explosion of the 21st century, copyright law presents even greater challenges for information professionals. The Internet and the digital revolution have changed the interpretation of copyright law in order to provide the greatest protection for creators' works. This chapter offers a discussion on copyright in this ever-changing age of information.

## Introduction

Marshall McLuhan (*1*) speculated that society is shaped by the way we communicate rather than by what we are communicating. In other words the focus should be placed on the *medium* and not the content of communication.

With the development of the Internet, Web 2.0 technologies and the semantic web, it is difficult to dispute McLuhan's theory. The Information Age—defined as a time when there is an unprecedented access and transmission of information. It is characterized by the use of computers and technology. This phenomenon

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has broadened the global communications landscape and has transformed modern society. Copyright Law has new meaning in the information age. No longer are print resources the sole medium for obtaining information. Digital formats are available to the public in just about every genre conceived.

This poses considerable challenges for creators of information who want to share their inventions with society, and yet, do not want their rights infringed upon. Meanwhile, information professionals who work at public institutions like libraries, archives and museums must balance the rights of the creator with the right of the public to have access to information.

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## Information in the Information Age

As a term, information is so ubiquitous that individuals do not usually question its meaning or how it is defined. It is found in several disciplinary contexts and is part of the theoretical structure of a variety of fields including, communications, cybernetics, computer science, physics and psychology. As purveyors of information, librarians are especially concerned with understanding how information is characterized especially in this ever-evolving age of technology. In order to understand copyright within the context of this changing information environment, we must first examine and delineate how information is defined.

The most recent contribution to the Library and Information Science (LIS) scholarly literature is Marcia Bates' (*2*) biologically based theory of information. She contends that, "Information is defined as the pattern of organization of matter and energy. Moreover, it is defined as some pattern of organization of matter and energy that has been given meaning by a living being." (p.1). Donald Case (*3*) adopts a user-centered approach to defining information. He synthesizes the various definitions espoused by scholars in the field and concludes that regardless of how information is defined, individuals seek information in response to a need in their quest for knowledge. Notwithstanding, the debate over how information is defined in the field of LIS, it is important to note that information and its appropriation, flow, use and control has become central to the organization of society and everyday life experience.

Although a vast array of definitions of information is posited by LIS scholars, the most widely accepted theory of information was conceptualized by Michael Buckland (*4*). Buckland's tripartite definition, "information-as-thing," information as process, and information as knowledge offers the most practical way of understanding information especially in this age of information. He describes these "things" as tangible objects which include but are not limited to, data, documents and books. These objects described by Buckland, are very much aligned with the eight general categories that are copyright protected under the U.S. Copyright Act: literary works, musical works (including words), dramatic works, pantomimes and choreography, pictorial, graphic and sculptural works, motion pictures and other audiovisual works, sound recordings, and architectural works (*5*). Understanding how information has been defined provides insight into way it has been changed in this information age.

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There are three great information revolutions that have transformed society and culture: Writing, Print, and Electronic (*1*). Prior to the invention of writing, early human societies stored and transferred information orally through speaking, listening, and remembering. This mode of communication created what is called an oral culture; and a social organization different from the traditions based on the printed word that we know today. However, it was the invention of writing—the first information revolution that enabled the permanent storage and retrieval of tangible information, In this era, the pen was the medium. The earliest written records can be traced back to 3000 bce in Mesopotamia when Sumerian citizens developed the first writing system in order to record financial, political and religious information. Clay tablets known as *cuneiform* and an instrument used to imprint images symbols became the primary means to record written data. As soon as ancient civilizations began making records, a system was needed to store and retrieve records. Rooms in palaces and temples were used for storing important records. These libraries were comprised of thousands of cuneiform tablets stored in large jars and arranged in rows on shelves. The collection was cataloged by an inscribed notation indicating the room where it belonged as well as shelf number. Each room of the library contained different subjects—religion, history, geography, commercial records, etc.

Print—the second information revolution was popularized during the 15th century when religious texts were in high demand. Goldsmiths and printers began exploring ways to produce massive volumes of bibles and other texts. However, it was Johannes Gutenberg in 1450 who is credited with inventing the printing press. His creation of a *punch and mold system* allowed for the mass production of interchangeable metal letters that could be combined to produce a page of text. These letters were considered “movable” in that they could be arranged individually to form words. If a letter broke down, it could be replaced. When printing of the copies of one page was finished, the type could be used for the next page. Early printing houses produced the same types of materials that had been created by monks and scribes during the middle ages. This material was printed bibles, books of hours, and other religious and educational texts. The invention of the printing press allowed for the centralization of bible publishing and the expedient dissemination of bibles to the Christian world. The printing press not only significantly increased the number of books produced en mass but it also reduced the number of hours printers spent on constructing them.

Prior inventions of the telephone, radio and the computer paved the way for the electronic age. The invention of the computer during World War II and the subsequent notion of a *networked society* that emerged in the 1980s laid the foundation for the Internet and constitutes the third major information revolution that continue to transform society as we know it today. Arguably, it is this third information revolution that presents the greatest challenges for copyright holders and users of information. Thus far, we have explored the concept of information and how it has evolved in society. We now turn our attention to copyright and its impact on libraries in the information age.

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## Copyright and Libraries

Copyright law stems from the United States Constitution which states that:

> "Congress has the power to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries" (*6*).

The U.S. Constitution offers incentives for creators to share their works with society. Moreover, the law affords authors flexibility when deciding how to benefit financially from their work by allowing licensing rights for any and all creations. Protection under copyright is guaranteed under the legal principle codified in the United States Copyright Act of 1790. Amendments were made in 1909 to include the exceptions to copyright protection not included in the original law.

Copyright Infringement was not much of an issue until the emergence of the photocopier during the twentieth century (*7*). In 1959, the first commercial photocopier revolutionized the document copying industry and permitted the general public to take control of their copying needs (*1*). Previously, library users would view original journal articles and books, and make handwritten notes, however, with the photocopier machine; individuals now had the ability to make multiple copies for personal use. As a result, exact copies could be made of another's work, which meant that copyright infringement was possible. Furthermore, publishing companies were not enthusiastic about this new development as they could potentially lose significant revenue from book publishing. With just the press of the button, individuals now could make numerous reproductions of an original document and transmit it at minimum cost.

Copying by libraries is covered in Section 108 of the copyright law and permits single copying of materials by libraries and archives under specified circumstances. However, "while the law protects some in-library copying by library patrons, publishers especially journal publishers feel that library copying has been quite detrimental to their business…It is in this area of the interpretation of fair use where much of the tensions exist between copyright holders and libraries" (*7*).

The invention of the computer also provided benefits for the publishing industry. The distribution of works in digital form allows publishers to reduce costs by minimizing the production of print copies. For instance, each time an electronic file is accessed; a copy of it can be created and transferred to the requesting computer, essentially publishing the document on demand. Electronic publishing has not only provided an option for seekers of information to retrieve information expediently, but it has also created a way for individuals to self-publish. The entire notion of publishing has changed in the information age. Tomas Lipinski questioned at what point is a document published in the information age. He asked, "In the age of the Internet, when does publication occur?" (*8*).

Individuals have access to information in a diversity of sources and formats that include but are not limited to print, the Internet, musical files, and other digital media. This media is not only available for public purchase, but they are also generally available and accessible in libraries and other information centers.

As purveyors of information, librarians are generally concerned with providing access to information to users at little or no cost. They are often confronted with the decision of determining the extent to which the creator or publisher of information can control the copying and use of that information by others. Two primary tenets of the copyright law are especially important for information professionals: *The First Sale Doctrine* and the *Doctrine of Fair Use*.

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## The First-Sale Doctrine

The first-sale doctrine was first established by the United States Supreme Court in 1908 with the Bobbs-Merrill Co. v. Straus case and later codified in the Copyright Act of 1976. The doctrine gives permission to the purchaser of a copyrighted work to transfer (i.e., sell or give away) a copy of the copyrighted work without permission once it has been acquired. Originally the legislation applied to copies that had been sold. However, the 1976 law expanded it applicability to any *"owner" of a lawfully made copy* or phonorecord regardless whether it was first sold. Essentially, content creators receive payment for their work only on the first sale of each copy. This doctrine allows libraries to function in a most basic way---lending resources to users. Initially, this started with books and in today's information age, it has broadened to other media currently found in libraries. Library patrons can now download materials on their laptops, iPods, iPads, smart phones and other technological gadgets. Gigabytes are transferred directly from a subscription database such as ProQuest (that stores scholarly journals) and accessed for personal use. Technically, libraries have not purchased these resources, but rather are licensed to use them to share them with patrons.

## The Doctrine of Fair Use

The doctrine of fair use has its genesis in the nineteenth century as an exception to the rules that prohibited uses of copyrighted materials (*9*). However, courts were in conflict over whether exceptions to the copyright law should be ruled on by courts or if it should be a mandated federal legislation. As a result, Congress amended the Copyright Act in 1976 to reflect the views of the majority of the courts. Section 107 of the1976 Copyright Act outlines the limitations on exclusive rights: Fair Use:

> Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—

> (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
> (2) the nature of the copyrighted work;
> (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
> (4) the effect of the use upon the potential market for or value of the copyrighted work. (*10*)

The Copyright Amendment of 1976 resolved the problem of what constitutes fair use, however, Congress left the application of the doctrine to the interpretation of the courts on a case-by-case basis. Thus, it is still unclear for users of copyrighted materials to know with certainty that they are protected under the fair use doctrine.

Since its enactment, several court cases were filed that highlight the complexity of the issue. One case in particular was the first major test of the fair use doctrine in 1984. In *Sony Corp. of America v. Universal Studios,* the Supreme Court ruled on an appeal from a decision from the Ninth Circuit Court of Appeals which held that in-home recordings of a television broadcast was not protected under fair use. Numerous television studios filed suit on Sony to forbid them from selling Betamax video recorders; contending that video recorders violated copyright law by permitting customers who purchased video recorders from Sony to record copyrighted programs. The court overturned the Ninth Circuit's decision, finding that the fair use doctrine protected Betamax users.

This case set a precedent for fair use that has implications for libraries. Prior to the *Sony* decision, fair use implied that copyright laws were for the protection of new authorship. However, the Supreme Court expanded the protection of fair use to anyone making copies of copyrighted materials for their own use. Therefore, users of libraries and other information centers that photocopy materials for their own use are protected under the fair use doctrine.

For information professionals, the doctrine of fair use is the most important limitation on the rights of copyright owners. It protects libraries and other information centers as well as their users from liability when they reproduce copyrighted works for scholarship or educational purposes.

## Conclusion

When Copyright law was first proposed in 1790, it would have been difficult to predict the vast technological advances that have occurred in society over the last century. Even since the 1976 Copyright Law, the incessant need for information has warranted a revisiting of the existing law to incorporate advances in technology and to offer greater protection against copyright infringement. The Digital Millennium Copyright Act (DMCA) was enacted in 1998 in an effort to update the laws for the digital age. Digital Rights Management (DRM) enforces restrictions on the use of copyright content. This extended the reach of copyright

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protection and arguably limited the liability of the providers of on-line services for copyright infringement by their users.

Copyright continues to be one of the most important challenges facing information professionals in the 21st century. The profession considers the matter so important that the American Library Association (ALA) has devoted principle IV of their Code of Ethics to address copyright concerns. The code states that, "We recognize and respect intellectual property rights and advocate balance between the interests of information users and rights holders" (*11*). While information professionals strive to adhere to this code, it would mean not infringing on a creator's copyrighted work, but also promoting respect for intellectual property rights among the community of library users. John Barlow (*12*) theorized that intellectual property laws would need to change to accommodate the ever-changing nature of information long before Web 2.0 was ever conceived. Therefore, it is critical that librarians and society at large stay abreast of the latest developments on copyright law. The American Library Association website: http://www.ala.org/ala/issuesadvocacy/copyright/index.cfm (*13*) is a useful resources for locating current information on how copyright law affects the way libraries provide information to their users. The United States Copyright Office (http://www.copyright.org) (*14*) located at the Library Congress in Washington, DC is the most comprehensive resource for obtaining information on the latest developments on copyright law. The Copyright office provides everything from basic information on how to register your work to the most important legislative provisions relevant to reproduction by librarians and educators.

The Information Age has dramatically transformed the way copyright law has been interpreted. The challenge for librarians is finding balance between the copyright holder and the user in this ever-changing environment. Librarians must be informed on the latest changes on laws and litigation on copyright issues and include themselves in the discussion as well as stay apprised of the diversity of information resources being considered in the copyright law debate. As technology continues to evolve and as information becomes more ubiquitous, librarians must be at the forefront of this debate. After all, information professionals are educated and trained to understand the dynamics of these issues. It is the librarian, not the policy maker or even the creator of the information who is in the best place to connect the user with information in a fair and equitable manner. Intellectual property, regardless of the source or format, should always be considered within the context of its effect on the public's access to information; thereby, compelling information professionals to always be mindful of their ethical responsibility—providing a balance between the content owner and the user.

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## Chapter 3

# Copyright Basics

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Like patent law, copyright law arises from Article 1, Section 8, Clause 8 of the U.S. Constitution, which instructs Congress "[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." This chapter explores some of the basics of copyright law in the United States, including statutory subject matter, ownership, the nature of copyright rights, registration, marking, and fair use. While this chapter does not include a section directly addressing copyright infringement, certain concepts useful in infringement analysis appear from time to time.

This chapter is limited to U.S. copyright law. Although laws in other countries may be similar in some respects to U.S. law, there is no international copyright law, and policies and practices differ widely from country to country. Moreover, our discussion is further limited to works created after January 1, 1978, the effective date of the Copyright Act of 1976, 17 U.S.C. § 101 et seq. If a work was created and fixed in a tangible medium of expression, published, and infringed prior to that date, it is governed by the Copyright Act of 1909. Where the acts of fixation, publishing, and infringement occur over a period of time before and after January 1, 1978, both Acts may apply.

## Copyrightable Subject Matter

Pursuant to 17 U.S.C. § 102(a), "[c]opyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or

In Special Topics in Intellectual Property; Twiss-Brooks, A.;
ACS Symposium Series; American Chemical Society: Washington, DC, 2010.

otherwise communicated, either directly or with the aid of a machine or device." The term "original" encompasses two different concepts—independent creation and creativity. Independent creation means that the work was created by the author and not copied from other works. As long as a work is independently created, the copyright in the work belongs to the author, regardless of the fact that another author may have come up with exactly the same work previously. For example, if you travel to Washington, D.C., and take a picture of the Capitol building, your photograph is an original work regardless of the fact that another photographer may have taken a picture of the same building, in the same light, from the same angle the day before. Once independent creation is established, the degree of "creativity" necessary to obtain copyright protection is very low, and has been described as "modest," "minimal," and "very slight."

Categories of copyrightable works include literary works, musical works (including accompanying words), dramatic works (including accompanying music), pantomimes and choreographic works, pictorial, graphic, and sculptural works, motion pictures and other audiovisual works, sound recordings, architectural works, mask works, and vessel hull designs. Many categories consist of a variety of works. For example, the category "literary work" includes, inter alia, catalogs, directories, instructional works, computer programs, compilations of data, and databases. Similarly, websites may be considered graphic works or audiovisual works, depending on their content.

Some works that are not separately copyrightable may become part of larger works that are themselves subject to copyright protection. A compilation of preexisting works or of data may be selected, coordinated, and arranged in such a way that the complete compilation is itself an original work of authorship. In that case, copyright protects the work as a whole, but not necessarily the individual components of that work, particularly those components that are not copyrightable as stand-alone works. In establishing this standard of originality for a factual compilation, the Supreme Court refused to protect a white pages telephone directory. On the other hand, a lower court did protect a directory of used car prices because the prices contained in the directory were the predictions of the authors and not derivations of historical prices or other data. Also, a derivative work of another work that is in the public domain or otherwise noncopyrightable can itself be protected if the new material added to or derived from the prior work is an original work of authorship. The resulting copyright protects the new copyrightable subject matter contained in the derivative work, but not the underlying work.

It is also possible to copyright a collection of works that are themselves copyrighted works, for example, a collection of short stories by different authors or a magazine containing articles by freelancers. In many cases, the authors of those stories or articles maintain ownership of the copyright in their work but grant permission to the publisher to include the work in its publication. When the book or magazine is complete, the publisher can claim copyright in the collection that is the book or magazine itself, but that copyright does not give it any rights to the individual articles other than those rights granted by the authors.

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## Works Not Subject to Copyright Protection

Equally important is what is not subject to copyright protection. Section 102 (b) provides that "[i]n no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work."

The Copyright Office has propounded additional regulations that help to define what is not copyrightable subject matter. These are the works (described in 37 C.F.R. § 202.1) for which it will not issue certificates of registration:

(a) Words and short phrases, such as names, titles, and slogans; familiar symbols or designs; mere variations of typographic ornamentation, lettering, or coloring; and mere listing of ingredients or contents;
(b) Ideas, plans, methods, systems, or devices as distinguished from the particular manner in which they are expressed or described in a writing;
(c) Blank forms, such as time cards, graph paper, account books, diaries, bank checks, scorecards, address books, report forms, order forms, and the like, which are designed for recording information and do not in themselves convey information;
(d) Works consisting entirely of information that is common property containing no original authorship, such as, for example: Standard calendars, height and weight charts, tape measures and rulers, schedules of sporting events, and lists or tables taken from public documents or other common sources; and
(e) Typeface as typeface.

Copyright protection is not available for any work of the U.S. government, although the government can receive and hold copyrights transferred to it by assignment, bequest, or otherwise. Copyright protection may be available to a work created by a state.

## Navigating the Idea vs. Expression Dichotomy

As touched upon above, copyright protects the expression of an idea and not the idea itself. This dichotomy comes into play in a few ways when determining what is and what is not copyrightable. In those cases where an idea is capable of expression in only one or a very few ways, the idea and the expression "merge" and the resulting work is not subject to copyright protection. This is known as the "merger" doctrine and typically arises in connection with factual and utilitarian works.

The merger doctrine is a judicial creation that is applied when the idea and the expression are inseparable. The seminal case on the merger doctrine involved the alleged infringement of a jeweled "bee pin." When the plaintiff claimed that the defendant had infringed its copyright on a jeweled pin shaped like a bee, the court ruled that the idea of a jeweled bee pin and the expression thereof were indistinguishable, and ruled for the defendant in order to prevent the plaintiff from obtaining a monopoly on jeweled bee pins.

In general, copyright does not subsist in utilitarian articles such as pieces of furniture. However, in another famous case, *Mazer v. Stein*, the Supreme Court considered whether or not any part of a utilitarian article could itself be protected. The case involved a lamp with a base that was a sculpture of a woman. The Supreme Court ruled that the base was separable from the utilitarian article as a whole and, therefore, subject to copyright protection. Keep in mind that protection was given to the particular sculpture at issue in the case and not to the *idea* of a lamp featuring a sculpture of a woman as a base.

In the case of other types of work, the “scènes à faire” doctrine serves a similar function to the merger doctrine in order to separate idea from expression. This doctrine arises most often in cases involving literary works, dramatic works, and motion pictures. In determining what aspects of a work are protectable, courts will look to those features of the work that are common to similar works and exclude them from protection. For example, a typical book about the Old West is likely to include characters such as a corrupt sheriff, a wise bartender, a powerful cattle rancher, and a town drunk. These are considered “scènes à faire” for such a story and the use of such characters in the novel would not be considered among the copyrightable subject matter of the work. The same could be said about an underlying romantic theme between the hero and a damsel in distress, a shoot-out in the town saloon, etc. Anyone writing a western novel may use any or all of these ideas. Copyright protection attaches to the story as a whole. If in comparing two works, the only similarities are the “scènes à faire,” a finding of infringement is unlikely.

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## Copyright Ownership

In most cases, the owner of a copyright is its author, namely, the person who created the work and fixed it in a tangible medium of expression that is sufficiently permanent so that it can be perceived and reproduced. It is possible for one work to be the product of two or more authors. Such works are called “joint works.” The authors of a joint work all possess an equal right to exploit the work. However, a joint author must account to the other authors for any profits derived from such exploitation. To obtain a nonexclusive license to a joint work, it is not necessary to contract with all of the authors. However, given the nature of joint ownership, no single author is in a position to grant an exclusive license or to transfer full copyright ownership.

When a work is created by an employee in the course of his employment, it is considered a “work made for hire” and the company is considered both the author and the owner of the work upon its creation. The question of ownership is more murky when it comes to specially ordered or commissioned works. To begin with, only certain types of works can qualify as specially ordered or commissioned works. Qualifying works are listed in the definition of “work made for hire” in Section 101 of the 1976 Act, a definition that is too lengthy to reproduce here. Note that the definition does not include computer software.

Assuming the specially ordered or commissioned work qualifies, the order/commission must be in writing. If there is no writing memorializing the transaction, copyright ownership remains with the third party who created the work. If a work cannot qualify as a “work made for hire” (either via an employer/employee relationship or by commission), rights to the work may be transferred via an assignment. This must be done in writing. Where a work is transferred via an assignment, the rights inherent in authorship, including the termination right discussed in the next section, remain with the author (e.g., contractor, freelancer, etc.).

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## The Bundle of Rights that Make Up Copyright

Prior to the 1976 Act, copyrights were considered indivisible. However, the 1976 Act rejected the doctrine of indivisibility and recast copyright as a bundle of discreet, individual rights. Pursuant to Section 106, these rights include (1) the right to reproduce in copies or phonorecords; (2) the right to prepare derivative works; (3) the right to distribute copies of the work by sale or other transfer of ownership, or by rental, lease, or lending; (4) the right to publicly perform the work; (5) the right to publicly display the work; and (6) in the case of sound recordings, the right to perform the work publicly by means of a digital audio transmission.

In addition, the author of a work of visual art has the right to (1) claim ownership of that work; (2) prevent the use of his or her name as the author of a work of visual art that he or she did not create; (3) prevent the use of his or her name as the author of the work of visual art if it is distorted, mutilated, or modified in a way that would be prejudicial to his or her honor or reputation; and (4) subject to the limits on the scope of rights in pictorial, graphic, and sculptural works as set forth in Section 113 of the Act, (a) prevent the distortion, mutilation, or modification of the work in a manner that would be prejudicial to the author’s honor or reputation, and (b) prevent destruction of a work of recognized stature. The rights described in this paragraph are called “moral rights” and belong only to the author of a work and not to its owner. There are exceptions to these rules and time limits on their application.

The owner of a copyright can slice and dice the various copyright rights however he or she likes. The owner can license reproduction rights to Company A and display rights to Company B. The rights can be further divided geographically, by product category, etc. There are, however, some basic rules to keep in mind. An assignment of ownership of copyright must be in writing. Thus, if you hire a contractor to prepare a work subject to copyright, and the work is of a type that cannot be a “work made for hire,” then the failure to obtain a written transfer of the copyright in the finished work means the contractor remains the author and owner of the work. This can cause huge business problems down the road if your company successfully exploits the work that it does not actually own. Not only can it be very expensive to obtain a written transfer after the fact, the contractor can license or sell the same rights to others.

Section 203 of the 1976 Act permits an author to terminate an exclusive license or an assignment thirty-five to forty years after the grant of rights, so care must be taken for works that will be used over a long period of time. Since the company is considered the author of a "work made for hire," this provision does not apply to such works.

Finally, while a nonexclusive license does not require written documentation, an exclusive license must be in writing.

## Registration and Marking

Copyright registration, while not required, is highly recommended. For U.S. residents, copyright registration (or an application refused by the Copyright Office) is a prerequisite for obtaining relief for infringement from a court. It is far more expensive to obtain a registration on an expedited basis after an infringement is discovered than it is to register copyrights as a matter of normal business practice. Moreover, the Act provides certain remedies that are unavailable to copyright owners who do not have registrations in place when the infringing activity commences. Such remedies include the election of statutory damages ($750-$30,000 per work infringed, increased to up to $150,000 per work infringed at the discretion of the court when infringement is willful), costs, and attorneys' fees. For newer works, these statutory remedies remain available if the copyright owner applies to register his or her copyright within the first three months after publication.

Registration is not required of foreign authors; however, even foreign authors must register to take advantage of the right to statutory damages and attorneys' fees and costs. Moreover, this exception does not hold when the work in question is published in the United States within three months of foreign publication.

Special registration procedures are available for works that are subject to or contain trade secrets (e.g., source code, employee manuals).

Prior to March 1, 1989, the effective date of the Berne Implementation Act (amendments to the 1976 Act to bring the United States into compliance with the Berne Convention), notice was required on all publicly distributed copies of a work. If notice was missing, the work was not protected and, in some cases, fell into the public domain. The issue of publication without notice remains relevant today when assessing the status and infringement of older works.

Today, copyright notice is not required but is still highly recommended. Notice can preempt a defense of innocent infringement in litigation and can otherwise serve as a deterrent to illegal copying.

For published works, notice takes this form:

© [year of publication] [name of owner]. All Rights Reserved.
Example: © 2010, Lawrence R. Robins. All Rights Reserved.

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For unpublished works, notice takes this form:

© [name of owner] (Unpublished Work). All Rights Reserved.
Example: © Lawrence R. Robins (Unpublished Work). All Rights Reserved.

## Fair Use

The doctrine of fair use, codified in Section 107 of the 1976 Act, is a defense to a claim of copyright infringement, and allows for certain limited uses of copyrighted works that might otherwise be infringing. These purposes include, but are not limited to, criticism, comment, news reporting, teaching, scholarship, and research. The statute requires courts to employ four factors in determining whether the use of a copyrighted work constitutes fair use, namely, (1) the purpose and character of the use, including whether the use transformed the underlying work by adding new meaning and expression; (2) whether the copyrighted work is factual or creative; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work. The fair-use inquiry requires careful consideration of the facts of the particular case.

The decision as to whether or not a use is fair often depends on whether or not the use in question is a "transformative" use. The use is transformative if it changes the character and purpose of the work and transforms it into something new. The court might ask if the alleged infringer added something of value to the original, either by addition or subtraction, that added new insight, expression, or meaning. For example, if a woman took a photograph of Peyton Manning, used a photo-altering program to insert herself into the picture, and then placed the altered photograph on holiday cards from "Mr. and Mrs. Manning," thus converting the original photograph to a humorous device, such a use might well be transformative. However, if she sold the altered photograph in competition with the holder of the copyright in the original work, she could run afoul of the fourth fair-use factor.

Courts will also consider whether or not the amount of the original work that was taken is sufficient to constitute infringement. This calculation involves both qualitative and quantitative comparisons. If the real value of a magazine article lies in three paragraphs out of one hundred and the infringer takes those three paragraphs, that might be enough to defeat a fair-use defense. In another case, copying three paragraphs might be considered de minimus and not infringing. The fair-use determination is highly fact intensive, so it is difficult to make any general statements as to what is and is not a fair use.

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## Chapter 4

# A Guide to Trademark Selection, Clearance, and Use

## Legal and Business Considerations in Selecting a Trademark

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Prior to examining the selection of a brand, it is essential to clarify that there is a difference between a "brand" and a "trademark." It is correct to say that "a trademark is always a brand, but a brand is not always a trademark," but that is an oversimplification. The distinction between "brand" and "trademark" is a legal one. The "brand" is the name, symbol, phrase or combination of them that the merchant uses to identify its product or service. The "trademark" is the legally recognized and protected aspect of the brand. Sometimes we substitute the term "service mark" for "trademark" when the mark is used in connection with services rather than goods. Legally, trademarks and service marks are treated the same.

An example should help clarify the distinction. Suppose you purchased the domain name "chemicals.com" and used it in connection with a site that sold and/or provided information regarding industrial chemicals. Your use of the name "chemicals.com" would almost certainly be considered merely descriptive or generic, would not be recognized as a legally protected trademark and could not be enforced under the trademark laws against another party using the same or a similar term. But that is not to say that the brand is without value. The exclusivity ensured by the current domain name system could render "chemicals.com" an extremely valuable "brand."

In Special Topics in Intellectual Property; Twiss-Brooks, A.;
ACS Symposium Series; American Chemical Society: Washington, DC, 2010.

## Preliminary Question—Do You Need a New Brand?

Developing and introducing new brands is expensive. In addition to the investments required to establish a brand in the marketplace, the cost of legal clearance and trademark filings can add significantly to those expenditures. The cost to clear and register a brand can range from a few thousand dollars in the case of a domestic brand that presents no serious legal hurdles, to hundreds of thousands of dollars for international brands requiring formal clearance in numerous jurisdictions.

With these costs in mind, the businessperson must always consider whether or not a new brand is necessary each time a new product or service goes to market. You can always count on the product development team to campaign for a new brand. Pride of inventorship fosters a belief that a new product is unique and must have a new name in order to attract attention in the marketplace.

But outside of large consumer marketing companies, most companies cannot afford the significant legal and marketing expenses attendant to new product introduction. Several years ago, management at a large technology company recognized that they were spending millions of dollars in pursuing weak and unnecessary brands and asked the question—*Do we need a new brand for each new product we sell?* The answer was a resounding "no!" As a result, the company established the position of "Corporate Branding and Naming Manager." All business units were instructed to submit requests for new brands to the Branding Manager who had nearly complete discretion to agree or disagree as to whether a new brand was necessary. Product managers were asked to consider whether or not the product could be marketed effectively through a combination of the house brand and the generic designation for the product. Information regarding competitors' branding strategies was also an important consideration.

If the product manager succeeded in making the case for a new brand, the Branding Manager assisted in brand development or facilitated employment of a naming consultant. But in most cases, the parties agreed that a new brand was not necessary. As a result of these efforts, the company saved many thousands of dollars per year in legal and marketing expenses.

Alternatives to new brands can include use of a house brand, extension of an existing brand or, in a few cases, no brand at all. The key is to consider these alternatives before embarking on a new brand initiative.

Given the tremendous value represented by a strong brand, it is essential to pay close attention to the potential to defend and expand a brand at the time of selection; not at the time that the first "infringer" enters the picture.

In the following pages we will refocus on trademarks. We will assume that, except in the rare case like "chemicals.com", the typical business person prefers to select brands that are capable of exclusive appropriation; in other words, a trademark. We will then discuss a framework for making decisions on designing and implementing an international trademark registration program.

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## Framework for Selecting Strong Trademarks—The Trademark Spectrum

To understand what makes a strong, protectable trademark, it is essential to understand how the law categorizes different marks. Marks are categorized in a spectrum of five categories: fanciful, arbitrary, suggestive, descriptive and generic. Fanciful, arbitrary and suggestive marks are called "technical trademarks" because they are treated as trademarks immediately upon adoption and use in commerce. In other words, immediately upon such use, technical trademarks perform the trademark function of identifying the goods and services of a single source and distinguishing them from others in the marketplace.

Descriptive marks do not enjoy the same presumption of trademark status. Instead, the owner of the mark must use the mark for a period of time, enjoy substantial sales and engage in a meaningful amount of advertising and promotion of the mark. Within five years after adopting the mark, the owner must then prove that the relevant public no longer looks upon the term as merely describing a feature, function, use or purpose of the product and, instead, looks upon the mark as performing the trademark function of identifying a single source of the product. After five years of substantially continuous and exclusive use of a descriptive term as a trademark, the law presumes that it has become distinctive of the seller's goods or services. This ascension to distinctiveness, whether by proof or by operation of law, is referred to interchangeably as "acquired distinctiveness" or "secondary meaning."

### Technical Trademarks

As mentioned above, technical trademarks are broken down into three categories: fanciful, arbitrary and suggestive. Fanciful word marks are those that are made up. Popular examples of such fanciful marks include: *KODAK*, *EXXON* and *PENTIUM*. Often companies spend many thousands of dollars to hire naming companies to come up with fanciful brand names. Contrast that to George Eastman's description of how he developed the *KODAK* brand:

> *I knew a trade name must be short, vigorous, incapable of being misspelled to an extent that will destroy its identity and in order to satisfy trademark laws, it must mean nothing. The letter K had been a favorite with me – it seemed a strong, incisive sort of letter. Therefore, the word I wanted had to start with K. Then it became a question of trying out a great number of combinations of letters that made words starting and ending with K. The word KODAK is the result.* (*1*)

Arbitrary marks consist of a word or words that do have a meaning in English or other languages but not in connection with the particular product or service identified by the mark. *APPLE* computers, *MUSTANG* automobiles and *COLT 45* malt liquor are all examples of well-known arbitrary trademarks. Keep in mind, however, that a foreign word is *not* an arbitrary mark if the English translation of the word is descriptive of the product or service. Thus, the mark VOLKSWAGEN

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was held to be descriptive, although it continued to receive protection as a result of strong evidence of secondary meaning. Courts and the United States Patent and Trademark Office (PTO) consider foreign equivalents of descriptive terms to be descriptive themselves. Acronyms, seemingly arbitrary at first glance, also may fall prey to a descriptiveness argument. For example, the mark "L.A." was found to be merely descriptive as applied to low alcohol beer.

Suggestive marks suggest something about a product or service but do not describe it. The distinction between a suggestive mark and a descriptive mark boils down to examination of the mental steps necessary to reach a conclusion as to the nature or purpose of the product or service. If several mental steps are necessary in order to reach a conclusion as to the nature of the product or service in question, it is likely that the mark is suggestive. This is an important distinction because brand managers in general have a strong bias towards selecting marks that immediately communicate a message about their product. As a result, most trademarks tend to fall in either the suggestive or descriptive category. As mentioned briefly above and discussed in detail below, such categorization can have major legal implications. Examples of suggestive marks include *COPPERTONE* for suntan oil and *ROACH MOTEL* for cockroach traps.

## Descriptive Terms as Trademarks

The category of "descriptive" trademarks subsumes a broad range of terms that may be used as brands. A mark is considered descriptive if it describes the purpose of a product (BAD AIR SPONGE), a feature of a product (EASYLOAD for tape recorders), an ingredient (OATNUT for cereal containing oats and nuts), the intended user (HOMEMAKERS for calendars), the intended use (DOC-CONTROL for document management software), a product's appearance, size (MICRO for wheel weights), scent (LEMON FRESH), sound, or any other of its attributes. Marks that do any of the foregoing fall into our traditional understanding of what is descriptive. Other marks that are not descriptive in the traditional sense are nevertheless treated as descriptive under trademark law. Such marks include those that refer to a specific geographic origin (THEATL for publications featuring news about Atlanta), comprise a surname (DELOITTE) or are self-laudatory (BLUE RIBBON).

If a mark comprises the name of the town or region where the product originates, it may be rejected initially by the PTO as being "geographically descriptive." Contrast that with a mark that identifies a location different from the place of origin of the product. Such a mark may be considered either arbitrary if the geographic reference is unrelated to the product and irrelevant to the consumer, or "geographically misdescriptive" or "deceptively misdescriptive" if the geographic reference is unrelated to the product but the consumer ascribes certain qualities, attributes and desirability to similar products originating from that location. For example, consumers expect that cheese designated as "Roquefort" originates from the Roquefort region of France. If Joe Stringcheese of Sheboygan, Wisconsin sells a blue cheese manufactured in Sheboygan under the name "Joe's Roquefort," the name is geographically misdescriptive. On the other hand, Philadelphia is not famous for its dairy products. As a result, the brand name *PHILADELPHIA* for cream cheese is not misdescriptive.

Self-laudatory terms also fall in the descriptive category. Such terms include the terms “super,” “gold,” “platinum,” “world’s best,” etc. Self-laudatory terms can act as trademarks, but only after the owner is able to demonstrate that the mark has acquired secondary meaning.

So far this discussion is limited to word marks. But trademarks can take other forms as well. When dealing with design marks, scents, sounds, product configuration and trade dress, the traditional trademark spectrum does not fit too well. Instead, such marks are generally categorized as inherently distinctive, non-distinctive or functional.

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## Non-Verbal Trademarks

There are seldom problems registering logos and other design marks as trademarks. In most cases, the design is either arbitrary or suggestive and, therefore, inherently distinctive. While it is not inconceivable that a design mark could be descriptive, the artistic features of the design alone are usually sufficient to lift the mark into technical trademark territory. That is not to say, however, that there are no limits. Certainly a chicken packer using a cartoon character chicken as a trademark cannot foreclose other packers from doing the same, so long as the other packer’s chicken is not confusingly similar in appearance to our first packer’s chicken. Obviously the picture of the chicken itself has some descriptive significance when used in association with chicken, but that connection only weakens the mark, it does not foreclose it from functioning as a trademark.

Until recently, it was possible to protect the design of a product as a trademark without proving that the design had acquired secondary meaning. But, as a result of the Supreme Court’s decision in *Samara Brothers v. Wal-Mart* (99-150, SUPREME COURT OF THE UNITED STATES) that is no longer the case. Now the trademark applicant must prove that its product design has acquired distinctiveness before the PTO or a court will view the design as a trademark and grant a registration or protect it from infringement.

“Functionality” is basically the equivalent of descriptiveness when it comes to analyzing non-traditional marks such as sounds, scents, colors, product design and packaging. For example, when used on yarn products, a distinctive scent performs no other function but to identify the yarn as coming from a particular source. Just such a use of a scent is currently the subject of a registered trademark. On the other hand, the scent of a perfume performs a specific and intended function and is not capable of exclusive appropriation as a trademark. That is why perfume manufacturers work very hard to protect the formulae for their scents from becoming public and why knock-off artists can sell copycat products with impunity. Unlike word marks, a showing of secondary meaning, e.g., in the scent of a perfume, cannot overcome an objection based on functionality. As a result, it is also common to equate functionality with genericness.

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### The Legal Status of Generic Terms

The last category in the trademark spectrum is the "generic" mark. This is a misnomer because a generic term can never be recognized and protected as a trademark. No matter how much you spend on advertising, no matter how many of them you sell, a pickle sold under the name PICKLE is still a pickle and you cannot claim the word as your own. Companies must be vigilant in order to prevent valuable trademarks from becoming generic terms. Failure to do so can subject the mark to "genericide" as the mark then ceases to function as a trademark and instead becomes the common descriptive term for goods or services of that type. This is usually the result of widespread use of the mark as a noun rather than an adjective. Common words such as "elevator" and "thermos" started off as trademarks but became generic terms as a result of widespread noun usage by third parties. Today, owners of trademarks such as VELCRO®, KLEENEX® and XEROX® actively police such improper use in order to prevent the genericide of those valuable brands.

## Conducting a Trademark Search

### Search and Clearance Generally

Once a mark is selected, the next step is the clearance process. It is often best to go into this process with a group of potential marks from which to choose. The trademark clearance process can often be frustrating for client and counsel alike: nearly 50 percent of marks are eliminated due to the existence of conflicting marks at the preliminary screening stage, and 50 percent or more of those remaining are likely to prove unavailable in either a full U.S. search or a foreign search. Because clearance is so difficult, and because of potential conflicts that may arise due to intervening filings by foreign applicants as discussed below, you should begin the trademark clearance process as long as eight to twelve months prior to the time that you intend to introduce the trademark to the marketplace.

### Starting Your Search

To enable the person conducting the search to work effectively, they will need the following information:

- Client information (formal name, address, state of incorporation if applicable).
- Mark to be searched (including exact spelling and form of presentation).
- Source of name (internal or external to client).
- Reason for selecting name.
- Known use of same or similar marks by the client or by third parties.
- Known meaning in English and in other languages. Is it an acronym? If so, what does the acronym stand for?
- Comprehensive, understandable description of goods or services.

- Identity of target markets, trade channels and geographic scope of marketing plan.

## Screening Searches

Most search strategies begin with a screening search to eliminate marks that clearly conflict with preexisting marks owned by other companies or individuals (so-called “dead hits”). A screening search is a relatively inexpensive, generally smart investment to make before turning to a more costly full search. Resources available for screening searches include the online search capabilities of most national trademark offices, internet search engines, and proprietary databases that permit searching across several countries at once.

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## Comprehensive Trademark Searches

If the screening search does not disclose a conflicting mark or marks that will preclude use of the proposed mark, the next step is to conduct a comprehensive or “full” search. Because a comprehensive trademark search requires sophisticated detection of phonetic and foreign language equivalents, synonyms, homonyms, and prefix, suffix and root-word similarities, most practitioners rely on professional search firms to conduct the comprehensive search and to compile a report of the findings.

The full United States search report covers the records of the PTO, the fifty state trademark registers, and common law sources relevant to the field in which the mark will be used. The search report is not an analysis of the viability of the proposed mark, but rather a list of arguably similar marks, their status, owners, goods or services covered and other relevant information. Trademark counsel assesses the data disclosed in the search and advises the client of both the risks involved in adopting the mark and the likelihood of obtaining a federal trademark registration.

Because of the variety of factors involved in trademark searching and analysis and its inherently subjective nature, the answer to the client’s question about whether a mark is available for use and registration is rarely a simple “yes” or “no.” Instead, trademark counsel provides a written opinion assessing both the availability of the proposed mark for use and the likelihood that it can be registered. The opinion is a risk assessment and not a definitive conclusion since no source of data is perfect and there is always a possibility that a relevant use will not appear in any of the search databases.

A good opinion will help you understand the level of risk and to make the business decision of whether the risk is appropriate to the business plan for the product and the mark. The opinion may also discuss possible adjustments to the marketing plan or intended use of the mark that may reduce risk. For instance, limiting the scope of the mark, combining the mark with a strong house mark or design element, or avoiding a particular marketing channel, may transform a high risk into a reasonable one.

### Follow-Up Searches

Due to the possibility of foreign entities filing for trademark protection in the United States based on prior filings in their home countries, trademark databases can be as much as six to nine months behind in reflecting the true state of a given trademark register. Thus, in those cases where you are looking to make a substantial investment in the mark, careful practice requires the filing of an application based on your intent to use the proposed mark in order to "reserve your place in line", to be followed by periodic update searches until the relevant foreign priority periods pass and it is clear that no intervening rights exist.

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## Trademark Registration and Enforcement Strategy

Companies with the budget to register and enforce their trademarks globally are few and far between. For most, it is necessary to identify economic and geographic priorities and then devise a strategy for brand protection that makes sense within those parameters. In this section we discuss the considerations that enter into the design of a trademark registration and enforcement strategy. We begin by describing a method for prioritizing the trademarks themselves and then set forth a method for identifying relevant countries in tiers of importance. At the end of this exercise you will be able to complete a matrix like the one shown in Table I that will enable you to designate the level of geographic priority of each of your marks.

## Identify the Marks To Be Protected

Depending on factors such as its size and/or the nature of the market in which it operates, a business may employ from one to several different trademarks or service marks. To assist in evaluating the significance to the business of these various marks, it helps to break them into these priority categories:

### House Marks

These are the firm's primary brand which, for some companies, function as the corporate name as well. For example, the marks DELL®, DOW® and WELCH'S® serve as both company names and as the primary brand of their respective owners. On the other hand, "Hillerich & Bradsby Company" serves as a company name and brand, but the company's "house mark" is its LOUISVILLE SLUGGER® brand.

In many cases, a company can simplify its branding process and reduce expenses by making heavy use of its house mark in combination with the generic terms for its products rather than adopting and using a separate trademark for each. Given the substantial legal cost of clearing, registering and enforcing a mark, combined with the advertising, marketing and promotional costs necessary to establish a brand in the marketplace, there is often a strong argument in favor of such an approach.

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**Table I. Trademark Priority Matrix Example**

| *Marks/Countries* | *Tier 1* | *Tier 2* | *Tier 3* |
|---|---|---|---|
| House Mark "A" | • | | |
| Key Brand "B" | • | | |
| Sub-Brand "G" | | | • |

### Key Brands

For firms that offer a more broad range of products or services, it is common to employ a different brand for each of those products or product categories. We refer to these as "Key Brands." For example, Dell employs marks such as INSPIRON® and LATITUDE® for various products, all of which are also sold under the DELL® house brand. Hillerich & Bradsby uses the key brand TPX® to identify its line of aluminum and composite baseball bats.

### Sub-Brands

Some companies will employ yet a third level of marks to identify each product offered under a particular key brand. For example, PepsiCo, Inc. markets a line of soft-drink products under the key brand MOUNTAIN DEW®, while many of those products are themselves offered under various sub-brands such as MOUNTAIN DEW BAJA BLAST®, MOUNTAIN DEW CODE RED®, and MOUNTAIN DEW LIVEWIRE®.

The first step in constructing a registration and enforcement strategy is to identify all of a company's marks and to slot them into the categories described above. In some cases the task will be simple. In others it may be necessary to conduct a trademark audit, entailing the review of all products, printed and online materials, legacy trademark registration records, and other similar sources in order to identify marks in use by the company. In many cases, decisions on where to employ finite resources may be enhanced by conducting "dilution" searches--investigations of third-party uses of the same or similar marks that are used to gauge the strength of a particular mark. In a few cases, even a formal brand valuation may be in order.

## Establish Geographic Priorities

There are over 190 countries worldwide in which it is possible to register a trademark. There are few companies that have both the resources and the desire to register all of their marks in each of those countries, making it necessary to establish geographic priorities for implementing a registration/enforcement strategy. Again, just as we did with the marks themselves, it is easiest to employ a priority tier system to facilitate decision making.

### Tier One

The main focus of the strategy should be on those countries in which the company does the bulk of its business. In many cases, the company could be doing business in a large number of countries, but may generate the vast majority of its revenue in a small subset of its overall market. While there isn't a "magic number" to point to, focusing on the countries that generate 75-80% of revenue should cover all of your truly major markets. Review of an actual country-by-country sales breakdown should provide sufficient clarity to pick the right percentage.

### Tier Two

Sales figures continue to play a role in this tier. That secondary group of countries where the company enjoys meaningful sales that do not quite make the Tier One group should be included in Tier Two. In addition, some non-sales considerations come into play and these countries should be at the top of the Tier Two list if not already included in Tier One. Included in this group are countries in which the company: (i) hosts business facilities; (ii) enters into sales and/or distribution arrangements with third parties; (iii) operates manufacturing facilities itself or through a contract with a third party; and/or (iv) has franchisees and/or licensees permitted to use its marks.

### Tier Three

The final tier includes any remaining countries that fall into one of these categories:

- Countries in which the company is negotiating with potential franchisees, licensees, distributors, sales agents, partners, or is considering establishing a new subsidiary or affiliate.
- Countries in which the company has no offices or outlets or general sales agents, but conducts significant business with persons from such countries when they travel to the United States or other countries where the company has offices or outlets.
- Countries in which the company has no offices or outlets or general sales agents, but the company's websites receive a significant amount of traffic from Internet users in these countries.
- Countries in which it is common for "trademark pirates" to register well-known marks of others.

While registration in third tier or even second tier countries may, to some, seem unnecessary, keep in mind that in the vast majority of the 190+ countries mentioned above, trademark rights arise out of registration and not from being the first to use a mark in that country. The cost to recover a mark when you later make the decision to do business in a third tier country is often exponentially higher than the cost to register in the first place. On the other hand, attention must be paid to the fact that trademarks can be cancelled for non-use in virtually all countries. In

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some, the mark becomes vulnerable to cancellation if it is not used for three years following registration and in others the number is five years.

## Registration Strategies

Once completed, the trademark matrix provides a clear guide on where to prioritize expenditures on trademark registration and maintenance. To control costs, in conjunction with trademark counsel, the company should look at various alternatives available for registering a mark in multiple countries via a single application such as the European Community Trademark (CTM) and the Madrid Protocol. The CTM process allows you to register a mark covering all member countries of the European Union via a single application filed in the Office for Harmonization in the International Market (OHIM) in Alicante, Spain.

The Madrid Protocol permits you to file an “International Application” with the World Intellectual Property Organization (WIPO) that is based on an application or registration in your home country, and to designate any or all of the 60-plus members of the Protocol in which you would like to extend the International Registration. The resulting registration in each country grants the same rights as a registration obtained by filing directly in that country. Filing via the Madrid Protocol may result in substantial savings in both the cost of registration and, later on, the cost of renewal and assignment of the mark. Each of the latter processes may be accomplished by a single filing with WIPO rather than individual filings in each country where a mark is registered via the Protocol. On the other hand, there are unique risks attendant to Madrid Protocol filings making it essential to consult with knowledgeable trademark counsel while designing a registration strategy.

## Enforcement Strategies

In most cases the cost to enforce a mark, which often means pursuing litigation or other means of dispute resolution, far exceeds the cost to register and maintain a trademark. Thus, while use of the trademark matrix is essential in establishing enforcement priorities, thought should be given to additional factors including, but not limited to, these:

- Define the “best case” in terms of the desired scope of rights. Again, a dilution search or other market investigation can be helpful in defining the strength of a mark prior to taking enforcement action. This approach facilitates focus on the disputes that can and must be won to maintain or increase market strength and can help avoid conflicts that are unlikely to yield useful results. Ultimately you must seek to determine the likelihood of success of any action before proceeding. There, the opinion of counsel is invaluable.
- Define goals. You may elect to engage in enforcement activities for various reasons. Perhaps the idea is to “make a statement” in order to deter future infringers. In that case you may choose to devote greater

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resources than might be the case in a simple "housekeeping" action. The latter category might include the use of trademark opposition procedures available in most countries in order to force a third party to narrow the description of goods or services in a pending application. Such a strategy allows a company to preserve its freedom to operate in its chosen market without interference.

There are no magic bullets available to assist the financially limited company in obtaining and protecting global trademark rights. However, by employing the concepts described above, you can maximize the return on investment in those marks and in your enforcement efforts.

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## Some Final Thoughts on Common Misperceptions

Over time, certain misperceptions arose in connection with the adoption and use of trademarks. Here we look at and clarify some of the more common myths:

- The Myth: The presence of several other persons using the same name for the same or related products or services means it is acceptable for you to also use the name.
- The Reality: Widespread use of a mark can dilute its distinctive nature and open the door for use by others, but such use is not without risk. While the owner of a diluted trademark may own limited rights, it maintains the right to enforce its mark in the area, however small, where it enjoys exclusivity. Thus, while there are any number of companies that use the mark AMERICAN in connection with their business, you are likely to run into serious difficulties if you were to start an airline under the name AMERICAN AIRLINES!
- The Myth: Names provided by branding companies are available for use without further clearance.
- The Reality: Branding firms sometimes perform basic screening searches but almost never conduct full clearance searches. Most do not employ lawyers who can provide a clearance opinion on which you may later rely in an infringement matter to avoid a finding of willful infringement.
- The Myth: Incorporation gives you the right to use the corporate name.
- The Reality: In approving a corporate name, the Secretary of State reviews the roll of corporations in his/her state. Absent a pre-existing corporation with the same name, your proposed name is approved. The Secretary of State does not conduct a trademark search. However, it is possible to infringe a third party's trademark rights by using its mark in your corporate name, rendering corporate name approval alone an insufficient means of clearing a mark for use.
- The Myth: Registration of a domain name gives you the right to use the domain name.
- The Reality: As with the Secretary of State, the domain name registrar does not conduct a trademark search prior to registering a domain name.

As with a corporate name, a domain name can infringe the trademark rights of a third party.

- The Myth: Use of a name internally gives you the right to use that name commercially.
- The Reality: Code names, project names and other designations that are used internally do not meet the "use in commerce" requirement necessary to establish trademark rights. Thus, such internal use does not give a company any right to use the mark in the outside world.

## Notes

1. Mr. Eastman's understanding of trademark law was a bit restrictive. Of course it is not necessary that a mark "mean nothing" in order to receive legal protection.

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## Chapter 5

# Careers in Intellectual Property

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The field and distinguishing characteristics of Intellectual Property (IP) are briefly discussed, especially patents, trademarks, and copyright. Career opportunities are outlined for all areas. The value of education and training in the sciences, especially in chemistry, for positions and careers in these areas is stressed.

## Introduction

Career mentoring is an essential aspect in the education and training in any discipline but is especially important in the sciences. Since chemistry is the Central Science, many chemists, both in and out of academia, are involved in these processes. In chemistry, the majority of careers have been directly involved with laboratory research and college level professorship. However, over the recent decades, an increasing number of "alternative" careers have become available to chemists, especially in the information related fields. Far from "dropping out", chemists who have migrated into these careers are very much part of the endeavors of chemistry. Both they and their employers find their education and training in chemistry to be invaluable in the practices of their profession and services they provide. Extensive references to alternative careers in chemistry are given on the webpage of the Careers Committee of the American Chemical Society Division of Chemical Information (*1*). Included is a chapter on alternative careers in chemistry which has been used several times in presentations to a variety of college and high school chemistry classes (*2*).

As noted, career mentoring is important for all of the sciences and engineering and not just chemistry. As will be shown in the rest of this chapter, a background in any of the physical sciences is valuable and even essential to many of the careers involving IP. The rapid increase in the number of patents involving biological and

In Special Topics in Intellectual Property; Twiss-Brooks, A.;
ACS Symposium Series; American Chemical Society: Washington, DC, 2010.

medical subjects requires people with biomedical backgrounds in all aspects of working with patents.

First, we should reinforce the definitions made elsewhere. Intellectual property consists of patents, trademarks, and copyright. The emphasis in this chapter will be on patents but the other two will not be ignored. All three fields, broadly defined, involve both legal and information aspects as well as a number of other differentiating nuances. As for a definition of "information", this author would place it somewhere between "data" and "knowledge"; a fairly broad category.

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## Comparison of Patent and Non-Patents as Information Sources

Although more extensively described in a number of sources (*3*, *4*), including in other chapters of this monograph, patents can be briefly described as a unique from of information. They are both a legal document and a published technical article. A primary distinction between patents and "regular literature" documents is multiplicity in number in number of documents. Although occasionally a single document, the same or document can appeared in more than one legally equivalent version or publication. Such multiplicity is usually not tolerated or is even proscribed in the non-patent literature. The authors are persons, individual or corporate, but the "publishers" are countries, i.e., national entities, or multi-governmental "granting agencies". The process is laborious and better described elsewhere (*3*). The end result is a patent, a legally enforceable limited monopoly (in that governmental jurisdiction), granted for a certain period of time.

The usual requirements for patentability are 1) novelty—the application and the details described have not been made public previously ("prior art"); 2) utility—there must be some "commercial" use for the material disclosed, and 3) non-obviousness (before this disclosure, not apparent to "someone skilled in the art"). As should be obvious, there are endless intricacies in every aspect of this process to be ironed out in negotiations between the would-be inventor and the examiner in the patent office (using the more familiar US example). In return for disclosing how the subject(s) of the patent application can be made, the successful applicant obtains a limited monopoly concerning manufacture and sale of the subject(s) of the patent. In the US, this is currently for a time period of 20 years.

The preceding terse discussion merely illustrates how complicated dealing with patents is for all concerned, whether a legal professional or not. An excellent comprehensive source for all aspects of patents, especially at the international level is Adams (*3*). Another is *Understanding Chemical Patents, A Guide for the Inventor* (*4*). Also described are alternatives to patenting including trade secrets.

Knowledge of patent law is also important or essential to those in patent careers. Patent laws vary from country to country but also are continually evolving within a given county's jurisdiction. Good background can be found in several sources including Durham (*5*), Maynard and Peters (*4*), and Amernick (*6*). As this chapter concentrates on professions in the US, the emphasis is on US patent law. The US Patent and Trademark Office (USPTO) website should be consulted for more information on many topics covered in this chapter (*7*).

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# Careers Involving Patents

## Scientists Who Become Patent Professionals

Traditionally, chemists tend towards careers in academia or research, the latter primarily involving laboratory positions. However, many scientists, including chemists decide to leave these areas in favor of "alternative" careers (*1*, *2*, *8*). Some even decide to take this path even when still in their educational process. Candidates for alternative careers, at whatever their stage in education or career, value and enjoy their background and training in chemistry but do not wish to pursue (or pursue further) professorship or lab careers ((*8*); introduction). Those who migrate to careers in technical information are well versed in chemistry but appreciate the information aspects of the science as well. They tend to have taken initiatives for information acquisition in their education and careers and are willing to be service oriented.

Since technical information and patent careers are closely related, those who migrate into patent careers are, in addition, interested in the legal aspects of patents, whether or not they have or will receive law degrees. Two publications describe people with IP and patent careers both with introductory descriptions (*8*) and interviews with practitioners in the field (*8*, *9*). These interviews exemplify patent professionals, their pathways, activities, and future. Educational and professional experience are exemplified in the career pathways of the interviewees and discussed further in the sections for each type of career.

## Occupations, Patents

Primary occupational categories for patent professionals include patent searchers, patent agents, patent attorneys, and patent examiners. All should be well schooled in the intricacies of patents and the latter two have additional responsibilities and capabilities in the legal sphere. Chemists, because of their training and background, are well positioned to enter any or all of the professions, although more training is required, especially for the latter two. Additional patent career paths are also described.

### *Patent Searchers*

Like many other searchers, patent searchers often do not start out in that field without other post-educational experience (*8*, *9*). Searchers in industry often begin their careers in some other function including laboratory work. Many enter the searching profession by transfer within their organization, often with a combination of training, both on-the-job and more formal. Additional degrees, like an MLS (Master of Library Science) or MLSIS (Master of Library Science in Information Science), are more commonly obtained by non-patent than patent searchers. Like information searchers of all types, some patent searchers are self-employed as consultants, usually to more than one customer or organization. Within an organization, patent searchers have a variety of clients or customers including researchers, patent agents, and patent attorneys. Like individuals, each client has their own set of needs, priorities, and requirements and the searcher must be attuned to these aspects as well as both the underlying technologies and searching technologies. For more information on what sort of patent searcher positions are available including the requirements see the Job Postings section on the Patent Information Users Group (PIUG) Wiki (*10*).

There are several categories of patent searches but the most common include those for patentability (a.k.a. prior art or novelty) and freedom to operate (a.k.a. infringement) searches. The requirements, sources, and methods differ for each category. Good references include Adams (*3*), Hunt (*11*), and, for mechanical patents, aimed at the independent inventor, Hitchcock (*12*). For chemical patents, also see Wiggins (*13*) and other sources (*14*).

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### *Patent Agents and Patent Attorneys*

Distinctions between these two related career paths vary from country to country. In some, the titles are identical. In others, including the US, they are not (*15*). In this chapter, we will concentrate on the US (*15–17*).

In the US, both patent agents and patents attorneys may work with patent applications: preparing, filing and prosecuting. They both may practice and represent clients before the USPTO which requires the same license. With some minor exceptions, both may provide patentability opinions. Patent attorneys must have law degree and must pass the law bar in at least one US state or territory to be allowed to practice patent law other than before the USPTO. This allows them to provide other legal patent services to clients within that jurisdiction that patent agents may not. These services include appeals of patent decisions by the courts and infringement litigation. Post-law school studies in patent law are available at several law schools (*18*).

Both patent agents and patent attorneys must follow the same registration procedures (*16*). Technical proficiency is required, usually met by a degree in physical science or technology (*16*). Both must pass the same USPTO registration exam, a.k.a the patent bar (*19*), in order to be registered.

Several patent searchers, both independent and those working for larger firms, have become patent agents. They feel they can not only better serve their clients but are able to participate more fully in the patenting process.

As indicated, educational requirements for patent agents and attorneys include a minimum of a bachelors degree in physical or biological science, technology, or computer science. Because of the breadth and centrality of their education, those with degrees in chemistry are particularly well positioned to pursue these careers. Some patent agents and attorneys begin to pursue the next stage of their training immediately after completing their education at either the bachelors, masters, or PhD level. Others migrate to preparation for their new career after being employed in related occupations including research and academia. The advantage of the latter route is that, analogous to other opting for more advanced degrees, prospective patent career people may be able to get support for their patent oriented education and training from their previous employer.

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### *Patent Examiners*

Several countries and granting agencies employ examiners to review new patent applications and make determinations on granting of patents. As before, we will concentrate on the USPTO (*20*).

USPTO patent examiners review patent applications to determine compliance under format, rules, and legal requirements (*20*, *21*). The scope of the invention claimed is determined, prior art is searched for in patent archives and databases as well as non-patent sources, and submitting written findings to the prospective inventors

Examiners are GS-graded civil servants (*22*) and must be US citizens with a minimum of a bachelors degree in the sciences, engineering, or computer science. Benefits are listed for the various pay grades (*22*) and in addition, include flex time, overtime opportunities, and law school reimbursement (*21*, *22*). At the time of writing, no vacancies existed for Patent Examiner positions but prospective applicants are encouraged to access the site frequently (*23*).

Work schedules and benefits allow many examiners to pursue a law school degree (related to the job) in conjunction with their job. Although many patent examiners make their entire career at the USPTO, many others take advantage of the opportunity to be employed but facilitate their ambition to become patent attorneys. Programs emphasizing patents are offered at five DC area law schools (*18*).

### *IP and IT*

As with many careers in science and technology, opportunities exist for computer and information technology practitioners in the IP and patent areas. Areas of interest include database design and production as well as systems design. Full text search engines have revolutionized information retrieval in all subject areas including patents. Peruse job postings in both the patent and IT areas for these and additional possibilities.

### *Consultancy*

Similar to careers involving IT, science and technology consultants also include patent searchers, patent agents, and even patent attorneys. Many independent searchers of scientific information are often patent searchers as well. As indicated previously, some patent searchers are also patent agents. Independent patent attorneys also exist. The clientele is obviously broader than those IP professional employed within one organization but many of the latter are considered internal consultants as well. The chief differences include a variable and possibly fickle clientele and the need for the consultant to provide organizational services either by themselves or by close associates. Alternatively, these functions can be outsourced at increased costs.

Most consultants were previously employed in full-time positions at larger organizations. Going independent can be simultaneously exhilarating and depressing or scary. A lot of hard work is involved, especially in developing a customer base and other marketing activities. Assistance can be provided by organizations such as the Association of Independent Information Professionals (AIIP) (*24*) which provides workshops and other consultancy start up and maintenance resources, some fee-based, some not. Even though AIIP is largely populated by information generalists, patent and other scientific specialties exist within the membership. For information and patent consultants, AIIP is a good organization to join.

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### *Other Patent Careers*

Another chapter in this monograph, “Interviews with Professionals in the Field” (*9*), excellently describes career paths and job descriptions of several professionals in the field of IP. In addition to interviews with patent searchers and patent attorneys, this resource also has interviews with a technology specialist (at some firms, a position held while the job holder is in the process of studying for their law degree) and patent educator (law school professors).

The ABA also describes internships and clerkships in the US Court of Appeals (*17*). Cases involving patent issues come to this court from around the country as well as the USPTO. The positions are part time and can be meshed with a legal education.

Patents and their underlying technology can be licensed to interested parties, usually for negotiated fees. In fact, most legal departments at larger organizations (including research universities) have patent and licensing groups usually concerned with both obtaining and vending licenses of patents and other IP property. Patent attorneys are definitely involved along with probable participation by both patent agents and patent searchers.

## Other Occupations in IP

### *Trademarks*

A trademark is a category of intellectual property that involves making use of an indicator or “mark” to identify products or services of either individuals or organizations (*25*). One can be involved as either a trademark searcher or as an attorney specializing in trademarks. Trademarks usually involve some sort of enhanced graphics or type fonts in addition to straight text and recent advances in digitized graphics have aided searching for and using trademarks. A database of registered trademarks along with background information is available at the USPTO (*7*). Other useful databases can be found through information vendors including LexisNexis (*26*), Dialog (*27*), Compu-Mark (from Thomson Reuters) (*28*), and Trademarkia (*29*). The databases are open to the public for searching but a licensed trademark attorney may be needed for interpretation of the results.

In the US, there is no specific registration process for trademark attorneys like that for patent attorneys. An attorney licensed anywhere in the US is entitled to practice trademark law (*30*).

### *Copyright*

In general, copyright (another category of IP) awards authors of original "works" exclusive rights regarding that work or creation (*31*). These rights cover specific time periods and cover publication, distribution and adaptation. "Works" include ideas or information expressible in a medium. The field is both immense and complicated. Although easy to obtain, the ramifications of copyright and copyright law are profound (*32*).

Along with the explosion of electronic publishing, both formal and informal, there is a growing trend in scientific publishing is open access publishing (*33*). Especially for open access scientific journals (*34*) a number of issues including funding, expenses, peer review, and copyright, are being extensively discussed and negotiated in the scientific communities, including chemistry. All parties—authors, employers, publishers, and readers, are providing input and these issues and practices will continue to evolve for some time to come.

Apparently, like trademark attorneys, there is no specific registration process for copyright attorneys. Within the sciences, since copyright affects authors, their employers (if any), libraries, and publishers, copyright involves a host of participants, whose needs are often at odds. For example, the American Chemical Society (ACS) has individual members, corporate sponsors, and is also a publisher. Libraries are also deeply involved. The ACS Publications Committee has a Copyright Subcommittee, involving both members and ACS staff.

## Conclusion

Since many regard chemistry as the "Central Science", chemical education and training can help prepare people for a wide variety of careers including the extensive array of careers within the intellectual property area. This is especially true if the information or technology involves chemistry which much of it does. A chemist's background in chemistry and other sciences and technology as well as problem solving skills that are also acquired makes those trained in the chemical sciences to be well positioned for positions in all of the areas described. Although most chemists at least start their careers in laboratory positions, a wide variety of positions and careers are available, as previously noted (*1*, *2*). The value of professional societies as resources is stressed including the Chemical Information Division (CINF) (*1*) of the American Chemical Society, the Patent Information Users Group (PIUG) (*10*), and the Association of Independent Information Professionals (AIIP) (*24*).

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## Chapter 6

# Interviews with Professionals in the Field

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Interviews with a variety of professionals involved in IP are transcribed here. The various individuals interviewed span the following careers: patent educator, technology specialist, patent agent, patent attorney- in house counsel, patent attorney, and patent searcher.

### Patent Agent – Tom Evans

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Tom Evans has been a registered patent agent at the United States Patent and Trademark Office since 2003. He is an inventor on 38 U.S. patents. Tom currently leads intellectual property activities for several of the polycarbonate businesses within SABIC Innovative Plastics. Prior to this, he worked as a product technology manager at General Electric (GE) beginning in 1992, and as a research scientist at GE's Global Research Center beginning in 1980. Tom is a 1980 graduate of the Pennsylvania State University, where he received a Ph.D. in Inorganic Chemistry working in the field of novel polyorganophosphazeness and cyclic organophosphazenes syntheses. He holds a B.A. in Chemistry with a minor in Chemistry Education from LaSalle University.

1. Would you briefly describe your work as it is related to intellectual property?

In Special Topics in Intellectual Property; Twiss-Brooks, A.;
ACS Symposium Series; American Chemical Society: Washington, DC, 2010.

I am a patent agent working closely with a patent attorney. I am in Technology with a Ph.D. in Chemistry. I have 25 years experience with our company in research and technology management roles. My present role on the Intellectual Property (IP) team is a facilitator between the inventors and the patent drafters with the goal of achieving the highest quality patents meaning with high accuracy, appropriate claim breadth and detail. I do some claim and specification drafting also. I also set filing priorities for the IP team and assist in patent maintenance decisions.

2. How did your education prepare you for this work?

My education provided me with the scientific knowledge and communication tools to serve as an effective interface with the Technology and IP functions in our company.

3. How do you keep up to date in the field of IP?

I keep up primarily through discussion with outside counsel that we employ. I also see many of the office actions (U.S. and foreign) so I can follow trends in prosecution. I also read one or two IP journals monthly, and am able to attend a course in patent practice every two years or so.

4. What are the disadvantages and advantages of working in this field?

I consider working in this field a great advantage due to the job security and career opportunities outside of my company. I think our work is generally appreciated and I derive real satisfaction when we succeed in getting patents granted as a result of something I contributed to the patent or prosecution arguments. I think the main disadvantages are a very high level of ignorance of IP in the general population within our company and the few attorneys with whom I can interact.

5. What future developments do you foresee in this particular IP career?

I am uncertain about the future of this career within our company. I have a unique background that particularly qualifies me for my role. In a broader sense IP positions in the chemistry sector will probably not grow and the economic pressures may lead it to shrink slightly.

### Patent Attorney – In-house Counsel - Sandra Kim

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Sandra Kim has been a patent attorney with Pfizer, Inc., since November 2005. Prior to this position, she was a patent trainee with Pfizer, while she worked on completing her law degree. She also has experience working as a summer associate with the law firm of Cooper and Dunham, where she prepared information disclosure statements and drafted patent specifications and reporting letters to clients. Additionally, Sandra has experience as a senior licensing associate with SUNY Stony Brook's Office of Technology Licensing & Industry Relations. She holds a J.D. from Brooklyn Law School, a Ph.D. in Neurobiology and Behavior from Stony Brook, and an A.B. in Biological Sciences from the University of Chicago.

1. Would you briefly describe your work as it is related to intellectual property?

I am a patent attorney and work as corporate counsel for Pfizer in New York City. As in-house counsel, my clients are the commercial business side of the company and also the scientists, as they are the ones I speak with who do the hard work inventing compounds. I support the central nervous system therapeutic area and a lot of Alzheimer's programs. A lot of patent attorneys are generalists. At Pfizer, we are aligned with a therapeutic area. I work with scientists to draft patent applications for compounds. Once an application is filed and we start getting office actions, I go back to the scientists for questions. On the business side, I am concerned with the length of time a patent is valid for. Also I do a little licensing and due diligence. I have very little to do with litigation.

2. How did your education prepare you for this work?

I received my A.B. and was told I would go to medical school, but I enjoyed research. I went to graduate school for neuroscience. Everything on my resume is biology. Now everything I support is chemistry. I need to be a generalist; patent attorneys need to understand chemistry, biology, physics, even computer science. My education gave me a good technical background. Scientists think a certain way and this has helped my analytical skills – my thinking, my approach. I never set my mind to getting a J.D. One person told me to try technology licensing. I took one year to figure out if I wanted to do post doctorate work or transition out. This gave me a chance to check things out. I completed an internship at SUNY Stony Brook in technology licensing and enjoyed it. You can do business with a law degree, but you can't do law with a business degree. So I decided to go to law school. I knew what I wanted to do and I was very focused. I took IP classes, such as business licensing classes. The classes did not help me particularly though. The whole point of law school was to teach me to think like a lawyer. The legal courses were helpful in that they taught me how to pinpoint a legal issue.

3. How do you keep up to date in the field of IP?

I attend Continuing Legal Education (CLE) classes, Patent Resources Group (PRG) and Practising Law Institute (PLI) courses. There are webinars and CLE offerings from a variety of professional groups such as the American Intellectual Property Law Association (AIPLA). I follow blogs, and newsletters such as *IP 360* to follow what's going on in litigation. Additionally, I look at law firm newsletters through firm websites.

4. What are the disadvantages and advantages of working in this field?

I see no disadvantages. I love what I do, even though I may be extra busy. There is not necessarily the stability everyone thinks there is, however. This economic environment is hitting law firms now too. In-house counsel do not earn as much as attorneys at law firms, but we have better benefits than most law firms.

I see many advantages. There are no billable hours to worry about. My weekends are free. The work is challenging and intellectually rewarding. I get to use all my knowledge and science. I love being on the cutting edge of science. I am involved in things that people are just developing. I also get to see many difference aspects of law as in-house counsel.

5. What future developments do you foresee in this particular IP career?

There are many more people in law school interested in patent careers today, so there is much more competition. I will be interested to see how this plays out. So many companies are not hiring patent attorneys right now; summer associate positions have vanished. At some point this has got to turn around. There will be a flood of people back in the patent market.

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Bonnie Bacon is currently a manager with Pfizer, Inc.'s Global Legal Information Science Department, having worked in a variety of positions with the company since 1995. She has worked as a patent information specialist, providing chemical and patent information to assigned therapeutic area research and development groups, and also as an analytical chemist. She holds a Ph.D. in Analytical Chemistry from Purdue University and a B.A. in Chemistry from Smith College.

1. Would you briefly describe your work as it is related to intellectual property?

I am a patent information scientist and conduct scientific information searches in support of legal opinions of patentability, freedom to operate, etc.,

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ACS Symposium Series; American Chemical Society: Washington, DC, 2010.

by patent attorneys in the patent department of a pharmaceutical company. Most of the information searches I conduct relate to small, pharmaceutically-active molecules (chemistry). I belong to a team of information scientists who have scientific backgrounds (typically advanced degrees in chemistry or biology). We use specialized software to design queries to find information in particular scientific patent information databases, then review and analyze the information, and present the information to an attorney who will provide a legal opinion.

2. How did your education prepare you for this work?

I have a B.A. in Chemistry and a Ph.D. in Analytical Chemistry. Coursework or a degree in Organic Chemistry is the most useful background for the subject matter I deal with most of the time. The coursework in Analytical Chemistry did provide a familiarity with working with chemical information and databases. I studied for and passed the U.S. Patent and Trademark Office (PTO) Registration Exam and am a registered Patent Agent. The study material for the exam provided a basic understanding of patentability and issues that occur during prosecution of a patent.

3. How do you keep up to date in the field of IP?

There are specialized conferences including those sponsored by the Patent Information Users Group (PIUG) in the U.S., and also sessions in the American Chemical Society annual conferences, particularly those sponsored by the Chemistry and the Law and/or the Chemical Information divisions, which help keep information scientists up to date regarding changes in U.S. and international patent law as well as new patent information resources. I have access to continuing legal education courses.

4. What are the disadvantages and advantages of working in this field?

The advantages of working in this field are that it is very interesting and intellectually engaging. Information scientists continually strive to build and maintain a very specialized skill set. Another advantage is that the global patent information science community is small enough that specialists often know other patent information scientists from other companies and countries, and a knowledge sharing culture is quite strong. In addition, the skills are portable among corporations, some law firms, database providers, and independent patent information science search contract companies.

One potential disadvantage is that the level of technical focus and the amount of time spent building expertise in the specialized field of patent information science is traded for time spent building research credentials, so moving out of information and into (or back into) scientific research and development may be difficult.

5. What future developments do you foresee in this particular IP career?

Specialized skills will continue to be important. As international, particularly Asian, IP continues to grow in importance, the ability to speak and translate non-English patents and scientific literature will provide jobs for those who are multi-lingual in addition to having scientific information skills. Opportunities for those who have a biotechnical scientific background continue to grow. There are opportunities for those who are willing to continually improve their information skills and build their scientific knowledge as both information technology and basic science evolve.

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Justin Hasford is a litigation attorney at Finnegan, Henderson, Farabow, Garrett & Dunner and has been employed there since 2003. Prior to his full-time employment at Finnegan he held a summer internship at Finnegan one summer and during another summer interned at two small intellectual property law firms. Before law school, Justin worked in scientific research in the Division of Clinical Pharmacology at Vanderbilt University Medical Center in Nashville. He holds a J.D. from University of Virginia School of Law and a B.S. in Chemistry and Molecular Biology from Vanderbilt University.

1. Would you briefly describe your work as it is related to intellectual property?

I work at a law firm and my practice encompasses litigation of patent infringement cases on behalf of pioneer pharmaceutical companies. I have also litigated health care business method patents.

2. How did your education prepare you for this work?

My educational background in chemistry, molecular biology, and pharmacology helps me understand the myriad of scientific issues that arise during the course of patent infringement cases. For example, scientific training is indispensable in analyzing and interpreting the patent-in-suit, potential prior art publications, and other documents that may bear on the issues in a case. Moreover, scientific training makes it easier to work with experts in order to assist the trier of fact when it comes time to adjudicate the case.

3. How do you keep up to date in the field of IP?

I keep updated in the field of intellectual property law primarily by reading opinions from the Court of Appeals for the Federal Circuit and other courts. I also attend in-house and outside Continuing Legal Education seminars in which attorneys make presentations regarding recent developments in IP law.

And occasionally I read law journals, legal magazines, and online materials summarizing recent developments in IP law.

4. What are the disadvantages and advantages of working in this field?

The biggest advantage to working in the field of IP law, in my opinion, is that I get to apply my scientific background to help clients address complex legal issues. The biggest disadvantage, in my opinion, is that it is difficult to keep current on the science.

5. What future developments do you foresee in this particular IP career?

As for future developments, it will be interesting to see whether Congress passes any of the proposed patent reform legislation discussed over the past several years. The passage of certain proposals -- for example, the implementation of post-grant opposition proceedings -- could open up a myriad of new and challenging practices and strategies in IP law.

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Jennifer Blount is a technology specialist with Wolf, Greenfield, & Sacks. Her prior experience has been in Chemistry as a Scientist/Postdoctoral Fellow/ Research Fellow. She holds a Ph.D. in Organic Chemistry, a M.S. in Chemistry, and a B.A. in Chemistry, all from Boston University. She is a J.D. candidate at Suffolk Law School presently.

1. Would you briefly describe your work as it relates to intellectual property?

I work as a Technology Specialist at a law firm in Boston, MA, where I work a reduced number of billable hours compared to attorneys. I attend Suffolk Law School in the evening on a part-time basis; the program takes four years. When Technology Specialists are hired, it is with the understanding that they will complete their law school degree. I am learning the job of a patent attorney as I go along, preparing and prosecuting patents in the pharmaceutical, biotechnology and chemistry arts. I handle both U.S. National and foreign prosecution, do patent searches, and write Freedom to Operate opinions. When I started working here, I was the only Technology Specialist with the group I work with, so I gained a lot of experience quickly.

2. How did your education prepare you for this work?

It didn't! Actually, to say my education did not really prepare me for this work is too broad a statement. My education prepared me with analytical skills to do the work I do with the appropriate level of scrutiny required to do the job properly. My field of study was biotechnology and pharmaceuticals. I was a medicinal chemist and involved in process chemistry. My education prepared me to analyze what scientists are doing, which helps when I draft an application. I have a B.A. and an M.S. in chemistry, and a Ph.D. in organic chemistry, along with a year as a postdoctoral fellow. I also worked in the pharmaceutical industry for three years. This background has helped me. Is it the "best" background for a Technology Specialist? There's no such thing as the "best" background. We need a multidisciplinary team to cover all types of patents. This requires having the best people with particular backgrounds, whether it's biology or physics, etc.

3. How do you keep up to date in the field of IP?

We have lots of group meetings where people make presentations -- at least once or twice a month. When I make a presentation myself it is a great learning experience. Associates at the firm come in and do presentations, and we can also attend classes such as CLE courses every year. I went to Washington, D.C. to attend a chemical-specific seminar this past year. We rotate throughout the firm to present various Federal Court of Appeals cases. I read the slip opinions from this Court. I follow several blogs I am signed up for, such as Dennis Crouch's "PatentlyO."

4. What are the advantages and disadvantages of working in this field?

There are so many advantages. I enjoy this work. I get to speak with scientists frequently. The work is challenging. I love learning, and as law was not in my previous background, I get to start learning a new field all over again…expanding horizons…and keeping up with the field of science.

I have to say that there are no disadvantages! Maybe later as my career evolves, I may see some, but right now I am learning about science all the time, I'm presented with new challenges, the work day is never routine, and there are always so many changes taking place.

5. What future developments do you foresee in this particular IP career?

For myself, as a Technology Specialist, I expect to continue learning more about law and growing more independent with my work. Following my course work, I expect to take the Patent Bar Exam and become an attorney. For the field in general, I believe firms hiring Technology Specialists positions will be looking for more Ph.D.s in the future. Having a B.S. or M.S. has been sufficient in the past, but I see the advanced degrees being more sought after in the future.

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Michelle Bugbee has ten years of experience as a patent attorney and is currently in-house IP counsel at SABIC Innovative Plastics (“SABIC”) in Pittsfield, Mass. She has worked at SABIC for five years and has five years of experience working as senior patent counsel for The Top-Flite Golf Company in Chicopee, Mass. (formerly Spalding Sports Worldwide, Inc.). In addition to her years of experience in the legal field, she has twelve years of experience in the engineering field. Michelle holds a J.D. from Western New England College School of Law, a M.B.A. from Western New England College, a M.S. in Manufacturing Engineering from the University of Massachusetts, and a B.S. in Chemical Engineering from Worcester Polytechnic Institute.

1. Would you briefly describe your work as it is related to intellectual property?

I work as an in-house (corporate) Intellectual Property Counsel advising technologists, marketing, sales and others on legal aspects, and primarily on aspects related to intellectual property, with a strong focus on patent work. I draft patent applications and respond to office actions (preparation and prosecution), review applications drafted by others, advise on office actions in the U.S. and foreign countries, review technical papers and presentations, and prepare non-disclosure, joint development and other agreements as needed.

2. How did your education prepare you for this work?

I have a B.S. in Chemical Engineering, and a M.S. in Manufacturing Engineering, which prepared me to work in the chemical and mechanical field. I worked in the chemical industry for about 12 years before attending law school. Both the engineering degrees and the law degree helped me learn to think and solve problems. Since I work as Intellectual Property Counsel, and focus primarily on patent work, the combination of engineering and law is perfect.

3. How do you keep up to date in the field of IP?

I try to read various IP journals, alerts, CLE courses, and information I receive from some of the outside counsel I routinely work with that provide case summaries.

4. What are the disadvantages and advantages of working in this field?

It allows me to combine my technical background and experience with my legal background, so it’s the best of both worlds. So far, I have not really experienced many disadvantages, other than there are not enough female IP attorneys, and since women still make up a smaller percentage of graduates in science and engineering disciplines, the trend will continue because many attorneys are not eligible to take the required Patent Bar to practice patent law.

5. What future developments do you foresee in this particular IP career?

With all the changes in technology happening so quickly, the law is changing rapidly. In addition, patent law is changing rapidly, both in the U.S. and abroad.

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Professor Janis has 15 years of experience as a Professor of Law. Currently, he is a Professor of Law at Indiana University Maurer School of Law in Bloomington, Indiana. Prior to his teaching experience, he was an associate with the law firm of Barnes & Thornburg in Indianapolis for six years, specializing in patent law. He holds a J.D. from Indiana University School of Law, and a B.S. in Chemical Engineering from Purdue University.

1. Would you briefly describe your work as it is related to intellectual property?

I teach and research in the areas of patent and trademark law, design protection, the intersection of intellectual property and antitrust law, and intellectual property law applied to plants.

2. How did your education prepare you for this work?

My chemical engineering undergraduate work provided me with a good foundation of technical knowledge and analytical skills. My law school education supplied me with highly relevant skills in legal reasoning. I draw on my law school experience frequently in my daily work as a law professor (at my alma mater).

3. How do you keep up to date in the field of IP?

I keep up to date by reading everything from newspaper accounts to specialized blogs to judicial opinions to scholarly articles and books. Also helpful is that I attend and present at academic conferences, and hang around with IP practitioners and very smart IP academics.

4. What are the disadvantages and advantages of working in this field?

There are several advantages. It is a dynamic field that involves dramatic movement in both its legal principles and its subject matter (inventions, brands, artistic works). It's a field that is keenly attuned to innovation. It's rarely stodgy. While its disputes can be emotionally charged and matters of great consequence to the disputing parties, the disputes are usually at least a step removed from the sort of true life-and-death disputes that may arise in other areas of legal practice. A disadvantage is that there is a steep learning curve, and because the field moves so quickly, it is a challenge to maintain expertise.

5. What future developments do you foresee in this particular IP career?

The future prospects for IP academics are great in the long term. I expect that law schools will continue to offer more and more instruction in intellectual property, and the scholarly environment will continue to blossom.

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Professor Strandburg is currently a Professor at New York University School of Law. She has nine years of teaching experience in law and three years teaching experience in physics. Additionally, Professor Standburg has six years of experience as an associate with the law firms of Mulroy Scandaglia Marrinson Ryan, and Jenner & Block. She has also worked as a law clerk for the U.S. Court of Appeals for the Seventh Circuit. Her scientist experience includes five years working with Argonne National Laboratory conducting scientific research using computer simulation techniques, along with three years as a postdoctoral research associate in physics with Carnegie-Mellon University. Professor Strandburg holds a J.D. from the University of Chicago Law School, a Ph.D. from Cornell University, and a B.S. in Physics from Stanford University.

1. Would you briefly describe your work as it is related to intellectual property?

I am a professor at New York University School of Law, where I teach patent law, a survey of intellectual property law, and other courses related to innovation and information law. My research in intellectual property law (I also write occasionally about privacy law) focuses on the interplay between patent law and open and collaborative paradigms of innovation. I also occasionally write amicus briefs to the Supreme Court or Federal Circuit relating to patent law issues. Most recently I have represented a group of medical associations in amicus briefs relating to cases involving patents on diagnostic techniques.

2. How did your education prepare you for this work?

I have a Ph.D. in Physics from Cornell University, did post-doctorate work at Carnegie Mellon, and worked as a scientist for five years at Argonne National Laboratory. My research was in the area of computer simulations of phase transitions and other statistical mechanics questions. My education as a physicist was a wonderful preparation for my current work. Generally, legal reasoning is an exercise in analytical thinking. There is no better training in analytical thinking than a physics education! My own area of teaching and research lies at the intersection of law and technology and my education has an obvious relation to that subject matter. I have also used my educational background as an inspiration for the methodology of some of my work. I have been involved in a collaborative effort to apply statistical-mechanics-inspired techniques for studying networks to the study of the evolution of patent citation networks; that work was published in both law and physics journals.

3. How do you keep up to date in the field of IP?

I have no choice but to keep up, since I am a professor! I rely on many sources of information: BNA newsletters, conferences and seminars, conversations with colleagues, and my own research.

4. What are the disadvantages and advantages of working in this field?

No disadvantages to my job – I love it! It allows me to combine my interest in science and technology with an interest in public policy. I also really enjoy teaching in the classroom and working with students on their own research papers.

5. What future developments do you foresee in this particular IP career?

Paradigms for innovation and communication are changing rapidly as technology evolves. I hope the law will respond to these developments in an effective way, both in the patent law area and in information privacy.

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# Chapter 7

# Continuous Learning

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The ability to learn is a critical and essential skill for all successful information professionals. In today's rapidly changing world, the key to success is not what you know, at any given moment, but how fast you can find what you need to know and what you need to learn to solve a particular problem or to answer a specific question. This chapter provides an overview of some of the key resources available for continuous learning, with a special emphasis on the resources available within the patent information community. These include resources for both new as well as experienced professionals and include those available from select associations, conferences, libraries, universities, patent offices, information providers, search firms and others.

*"If you think education is expensive, try ignorance." – Derek Bok*

## Introduction

Continuous learning and its direct application to every day projects are perhaps the greatest challenges facing information professionals working in the field of intellectual property. The ability to learn is a critical and essential skill for all successful information professionals. In today's rapidly changing world, the key to success is not what you know, at any given moment, but how fast you can find what you need to know and what you need to learn to solve a particular problem or to answer a specific question. The opportunities for learning are many. We must, above all, embrace these opportunities and also filter them according to our needs since most of us simply cannot learn everything all at once. To attempt to do so is overwhelming and wasteful. Focused and applied learning are the preferred goals.

This chapter provides an overview of some of the key resources available for continuous learning, with a special emphasis on the resources available within the patent information community. These include resources for both new as well as experienced professionals and include those available from select universities, libraries, associations, conferences, patent offices, information providers, search firms and other sources. The chapter concludes with a discussion about the current efforts moving towards the certification of patent information professionals. The web links are current as of December 2009.

## Mentoring

Whenever appropriate, it is desirable to learn as much as possible from our immediate colleagues and also from other people working in the same field. We may encourage one another to create a culture of knowledge sharing and collaboration.

When hiring new patent information professionals, it is perhaps best practice to train them and to oversee their work product for a minimum of six months for up to two years, depending on the person's background and the resources available for mentoring. If there are multiple analysts on staff, then it may be possible to rotate the training and mentoring among the analysts. This allows the new person to be mentored by several people and thereby splits the overall responsibility onto more than one person but also allows the new person to learn the areas of expertise of multiple people.

Some patent analysis groups also conduct sessions where they can formally share tips and tricks for searching and analysis. In-house, corporate patent attorneys are also asked to participate in the initial training of a new staff member to provide the basics about intellectual property, patent law, how to read invention disclosures, and other matters. Attorneys may also be asked to provide ongoing updates to information staff on case law and federal regulations that may be relevant to patent searching and analysis.

## General Sources

A successful information professional is a well rounded individual, with a broad knowledge base and with strong communication skills. He or she must be capable of tackling problems and finding the right resources at exactly the right time. This section highlights some resources which may be useful for overall professional development.

It is possible to do individual studies, such as by reading database manuals and the like. There are many web sites with information that may be useful for personal study. One such resource is the Australian-based IP Menu website [http://www.ipmenu.com/iptraining.htm], which provides a country-by-country listing of intellectual property (IP) training resources. For example, in the U.S. section there are links for general information concerning utility patents, design patents, plant patents, trademarks, patent searching, a patent crib sheet, and the Patent Resources Group.

Franklin Pierce Law School has created the IP Mall [www.ipmall.info], which is an internationally acclaimed IP resource website, providing a unique collection of Pierce Law hosted intellectual property resources and links to the most valuable IP resources in the world. The “IP Links” tab provides links to over 2,700 online resources, under the following general topics:

1. Intellectual Property & Related Topics: General: U.S.
2. Global Directory of Patent & Trademark Offices & Related Agencies & Copyright Consulting
3. Non-Governmental Organizations ("NGOs"): U.S.
4. Publishers, Commercial Database Producers & Vendors & New Services: U.S.
5. Global Directory of International Resources
6. Copyright: U.S.
7. Patents, Trade Secrets and Technology Transfer: U.S.
8. Trademarks, Unfair Competition, Franchising, Product Counterfeiting and Merchandising: U.S.
9. Internet, Online, Electronic, Information, Telecommunications and Multimedia: U.S.
10. Non-IP Sites Helpful to Find IP Primary Legal Sources: U.S.
11. Electronic Commerce Law : International Resources
12. Patent Searching Academy
13. Year 2000, Y2K
14. Trademark Searching Academy
15. Intellectual Property Rights of Indigenous Peoples
16. Competition Law in the European Union
17. Patent and Technology Transfer Statistical Information
18. Business Valuation Sites
19. Copyright and Educators including Distance Learning
20. Intellectual Asset & Knowledge Management
21. Intellectual Property Insurance Coverage
22. Intellectual Property Cybercrimes
23. Intellectual Property & the Environment
24. Intellectual Property & Health
25. Intellectual Property & Security Interests
26. Copyright Work for Hire
27. Intellectual Property & Tax
28. Intellectual Property Expert Witnesses
29. Intellectual Property Judgement & Liens
30. Intellectual Property Jury Verdicts
31. Intellectual Property & Biotechnology
32. History of Intellectual Property
33. Intellectual Property & Economics
34. Art Law
35. Sports Law

36. IP Educational Opportunities including USPTO Patent Bar
37. Federal Court IP Jury Instructions
38. IP Law Jobs, Employment, & Careers
39. IP, Commerce, Technology and Cyber Blogs
40. Women & IP
41. Publishers of IP Legal and Non-Legal Treatises
42. Patent Model Resources
43. Public Private Partnerships & IP
44. TRIPPS
45. IP Webcasts
46. Outsourcing IP Professional Services
47. Public Interest and Social Justice and IP
48. Nanotechnology and IP

Dale Carnegie Training emphasizes practical principles and processes by designing programs that offer people the knowledge, skills and practices they need to add value to business. Connecting proven solutions with real-world challenges, Dale Carnegie Training is recognized internationally as the leader in bringing out the best in people. They offer many courses, including a course on effective communications and human relations.

Many organizations offer general leadership training, such as the International Institute of Management. This is an executive education and development institute offering accelerated and online management training programs. This firm also offers many business law courses such as company law, trade law, intellectual property, copyrights, patent law, professional liability, employment law, tort, finance and investment law, internet and eCommerce law, arbitration, international law.

Project management fundamentals courses are useful for learning the basics about stakeholder analysis, communication planning, meeting guidelines, stages of team development, schedule development, risk management, issues management, and estimating techniques. These skills are very valuable to IP information professionals who are working to implement and use new systems or to market existing ones. One specific company that offers this training is Start-to-Finish PM, Inc. with instructor Ernie Baker.

Magister Ltd. is an independent consultancy which provides a range of services to the scientific and technical information community. Their primary activities are in the field of patents documentation. Their independent status ensures that they can work equally well with either producers or users. Magister Ltd. have also issued a list of specialised courses for patent users.

## Universities

Most of the related educational opportunities for information professionals working in the field of intellectual property are informal. However, there are some specific programs that are offered at universities. The programs are usually offered within law schools or information science departments. University web sites offer more detailed information about each specific department and program. It is important to keep in mind that degree designations often vary from country to country. For example, the length of time it takes to obtain a university degree may vary, depending on the country and the specific program.

The formal programs that are available include a certificate in IP law. These are offered at several universities, including Queen Mary University of London, New York University, John Marshall Law School, Franklin Pierce Law Center, and others.

The formal programs also include a Master of Intellectual Property Law. For example, there is a joint program offered by the World Intellectual Property Organization (WIPO) and Queensland University of Technology. The University of Strasbourg offers a diploma course on patent litigation in Europe. The University of Zurich and the Osaka Institute of Technology also offer programs in IP law.

Finally there are many degree programs available in library and information science departments, for example, the University of Indiana offers several interesting programs. One of them is a dual degree program for a Master of Library Science and a J.D. in Law. They also offer a joint Chemical Information Specialist and Master of Information Science or Master of Library Science degree and these can be very useful for chemical patent searching. Drexel University is also well known for its information science programs.

## Libraries

For an excellent summary of patent libraries, the reader is referred to a work by Stephen Adams (*1*) of Magister Ltd. Many of these libraries offer instruction or educational programs. Below is a brief summary of these libraries.

There is a wide European network of libraries that operate with the PATLIB label. It comprises the national patent offices of each member state and all regional patent information centres. For example, the United Kingdom has a network of libraries that operate as PATLIB UK. Contact details for each library can be obtained directly from the European Patent Office (EPO) web site at [http://www.patlib.european-patent-office.org/index.en.php].

The British Library offers an introduction to intellectual property at [http://www.bl.uk/reshelp/findhelpsubject/busmanlaw/ip/intro/ipintro.html]. It also offers many useful resources including:

patent databases and related links, at [http://www.bl.uk/reshelp/findhelpsubject/busmanlaw/ip/ippatents/ippatdata/databases.html],

trademarks and related links at [http://www.bl.uk/reshelp/findhelpsubject/busmanlaw/ip/tradmk/iptmdatabses/databases.html], and

designs and related links at [http://www.bl.uk/reshelp/findhelpsubject/busmanlaw/ip/ipdes/ipdesdata/databases.html].

In the United States, the corresponding network of libraries operates under the title of the Patent and Trademark Depository Library (PTDL) Program. This is supported by the U.S. Patent and Trademark Office (USPTO) and details of the program can be found at [http://www.uspto.gov/go/ptdl] As with PATLIB, these libraries operate in a variety of environments – some are university based, others reside in parts of a general or public library. All libraries provide help materials for inventors and trademark support. Librarians at the PTDLs are generally encouraged to help and instruct visitors in running searches for themselves, rather than performing searches on their behalf.

The German library network is informally known as the PIZ (Patentinformationszentren) network. Their dedicated web site is at [http://www.patentinformation.de]. Several of the centers organize periodic courses for industry or searchers.

In Japan a direct network to the National Center for Industrial Property Information (NCIPI) provides access to many IP Centers located around the country. A list is provided at the Japan Patent Office (JPO) website at [http://www.jpo.go.jp/torikumi/chitek/chiran.htm]. These centers offer free assistance with patent information matters and some of the larger centers have consultants that advise on patent technology transfer, searches on the JPO's Industrial Property Digital Library (IPDL) and other matters relating to patent filing and searching.

## Associations

Many countries have independent patent information groups, including US (PIUG), UK (PATMG), Italy (AIDB), Netherlands (WON), France (CFIB), Denmark (PIF), Sweden (SIPIG) and Germany (ARPAD). Several of these publish a newsletter or periodical. Beyond country-based groups, The Patent Documentation Group (PDG) and the Confederacy of European Patent Information User Groups (CEPIUG) are primarily European wide networks and the PIUG organization in the U.S. also has some international activity including a relatively new sub-group in China. Most of the web links for these associations can be found at [http://wiki.piug.org/display/PIUG/Associations].

These associations each have a web site with content that may be useful to patent information professionals. There are a few resources worthy of specific mention.

The Patent Information Users Group, Inc. **(PIUG)** offers a dynamic wiki that is regularly updated by users at [http://wiki.piug.org] and a "Bibliography" section of the Patent Information Knowledge Base, which forms a part of the web site of the PIUG at [http://www.piug.org/pikb.html]. The PIUG wiki has a navigation folder for Training Opportunities and also for activities relating to the PIUG Education and Training Taskforce (PETT). Kristine Atkinson, of PETT, has written a white paper on Continuing Education Credits (*2*). She currently co-chairs this task force with John Zabilski.

PIUG and CEPIUG, desiring to promote cooperation among patent information user groups, agreed to a framework for cooperation between them in May 2008. Cooperation has been seen in the following areas:

- professional training / education; and
- certification of individual patent information specialists.

The Dutch patent information user group (**WON**) offers a useful country listing of links for patent office home pages, bibliographic data, registers, document downloads and other useful country based links at [http://www.won-nl.org/2008/public/en/patinf.shtml].

Since 2002, the WON has offered an extensive training course in cooperation with GO opleidingen for new patent information professionals. The course web site is [http://www.patentinformation.nl/]. The patent information specialist course in the Netherlands currently covers the following topics over 18 days of training, divided over five weeks, with an additional seven to ten hours of study required per week:

- Patent legal aspects and patent legislation
- Patent documents and their accessibility
- Patent classification
- Searching the internet: web search strategies
- Free text searching and citation searching
- Retrieval and distribution of patent literature
- Approaches for several kinds of patent searches (with five "hands-on" case studies)
- Analytical tools

Students must have at least a bachelor degree in a technical-scientific discipline in order to participate in the Dutch course. The training includes two examinations that are overseen by the exchange examining board of GO opleidingen. Candidates who pass the examinations receive an official certificate, registered with a governing body, Stichting Post-HBO in the Netherlands.

Since 1989, the Pharmaceutical Education & Research Institute, Inc. (**PERI**) has provided a three-day workshop on patent information in the US. This workshop focuses on patent law and patent information basics, and is intended for information specialists and others involved in searching patent information and applying it to corporate decision making. It differs from most patent information training in that it provides an overview of the fundamentals of patents and patent information resources rather than teaching how to use specific tools and databases. Although the focus of examples given in the course is on pharmaceutical patents, the basic principles apply to all technologies. The faculty is made up of experienced patent attorneys/agents and corporate patent information professionals. This course is highly regarded and is directed by Edlyn Simmons, a founding member of PIUG.

The PERI Course covers the following topics:

- What is a patent?
- Basics of U.S. patent law
- Basics of patent law outside the U.S.
- Why search patents?
- Patent information resources
- How to read a patent?
- Patent term extensions and adjustments

- How to find the patent status of a drug (or other chemical substance)?
- Overview of patent searching techniques
- Biotechnology patents and sequence searching
- Chemical structure searching
- Special topics in patent information
- Reporting search results
- Technical intelligence and patent mapping
- Wrap-up - How to keep up to date?

## Conferences

World Patent Information, the journal from Elsevier, publishes a selective diary of upcoming conferences, exhibitions and courses. The journal also includes conference and meeting reports in most issues.

IP and information technology Conferences are also published on Professor Michael Madison's Blog (University of Pittsburgh School of Law) at [http://madisonian.net/conferences].

Most associations mentioned earlier in this chapter offer meetings which may be open to the general public (e.g. PIUG) or may be limited to members only (e.g. PDG). You should check the association's web site or registration materials to determine whether membership is required for attendance. Many of the web links for the conferences listed below can be found at [http://wiki.piug.org/display/PIUG/Patent+Information+Meetings%2C+Conferences%2C+and+Seminars].

**PIUG Inc**. offers three major conferences in the U.S., each held once a year, including the Boston Biotechnology Conference, the Annual Conference, and the Northeast Conference. These are specifically designed for patent searching and analysis professionals. A useful listing of patent meetings and educational opportunities is provided at [http://piug.org/meeting.php]. This contains links to upcoming PIUG meetings, previous PIUG meetings (with slides for PIUG members only), upcoming meetings, conferences and seminars (beyond PIUG offerings), ongoing patent information specialist training, and other meeting websites. Conference reviews and summaries are often provided in the PIUG Newsletter, a publication available only to members of PIUG, Inc.

Also in the U.S., the Special Libraries Assocation **(SLA)** offers multiple conferences and its industry events calendar may be found at [http://www.sla.org/content/Events/nonsla/index.cfm].

The International Patent Information Conference & Exposition **(IPI-Confex)** is the premier conference and exposition in Europe that is tailored to the interests of patent information professionals. Featuring well known speakers, this conference is a way for patent information professionals to stay on top of their profession and keep their expert knowledge current. Presentations on issues affecting the ever-changing patent information industry sector include:

- visionary perspectives from industry experts;
- current news and other hot topics;

- the latest developments concerning commercially available products and services;
- free patent databases and other unique resources available worldwide for intellectual property research;
- 'how-to' technical discussions;
- continuing education & training through add-on workshops and seminars;
- news from the patent offices.

The **Japan** Institute of Invention and Innovation and the Japan Patent Information Organization offer the Patent Information Fair and Conference. This is a conference held over three days which covers information systems for creating and managing intellectual property to strategic systems for effectively using it.

The Information Retrieval Facility (**IRF**) Conference provides a multi-disciplinary, scientific forum for researchers and aims at bringing young researchers into contact with industry at an early stage.

The IRF Conference tackles four complementary research areas:

* Information retrieval (IR)
* Semantic web technologies for IR
* Natural language processing for IR
* Large-scale or distributed computing for the above areas

The conference focuses on large scale research projects and relates the research papers to real industry cases. The IRF Conference addresses young researchers who are interested in:

* Discussing results obtained using the IRF infrastructure and data resources
* Learning about complementary technologies
* Applying their research efforts to real business needs
* Joining the international research network of the IRF

The International Conference for Chemical Information (**ICIC**) is for those in the sci-tech world who wish to share best practices, network and evaluate trends. The conference typically has over 200 attendees from the main sci-tech companies and information, service or software providers. The conference lasts for two and a half days and features approximately twenty-four formal presentations, panels on topical matters, all interspersed with short new product information presentations. All sessions are plenary. A focused exhibition of approximately twenty-five stands is integrated within the conference. Attendance at these meetings is highly international, with no one nationality predominating.

## Patent Offices and Patenting Authorities

If you intend to pursue a career in patent research and analysis, it may be worth considering whether to obtain a patent agent qualification. In the past, the USPTO has offered the examination twice a year. You must essentially have a bachelor's degree in a technical discipline, however, a law degree is not required. For the U.S. exam it is possible to purchase study materials from at least two sources, Patent Resources Group and the Practicing Law Institute. Each country has unique requirements for agents and attorneys.

The U.S. Patent and Trademark Office also offers training and events at the Patent and Trademark Depository Libraries (PTDLs), see [http://uspto.gov/products/library/ptdl/eventschedule.jsp]. They also offer Public Search Facility Training for patrons who wish to use the on-line examiner search systems located in their office (EAST, WEST, and Trademark-X Search), see [http://uspto.gov/products/library/search/index.jsp#heading-3].

WIPO's Global Network on IP Academies supports the work and sharing of resources, including training programs, of the Global Network of IP Academies and to provide an effective forum for exchanging of views and experiences among the members of the network. The network currently includes many patent office academies, including the European Patent Academy, the WIPO Worldwide Academy, Japan's National Center for Industrial Property Information and Training, and several others. Each of the national academies offers certain services. For example, the WIPO Academy offers distance learning, professional development, education and degree programs and a summer school on IP. You may check with each patent office's academy to be sure of the exact services offered and the timing of those services.

The EPO also offers training programs, both online and inhouse. An example of such a course is "Classification matters: understanding the world's major patent classification schemes". The EPO also provides several conferences, including the Patent Information Conference and PATLIB, among others. There is a complete list of upcoming seminars and courses at [http://www.epo.org/topics/ip-events/patent-event-search.html].

## Information and Tool Providers

Training is available from both system providers as well as database content providers. One must attend both in order to stay abreast of developments in the intellectual property field. You can get details of the training that is available from each vendor by visiting their respective web site. Some of the key providers include Chemical Abstracts Service, Dialog, IFI Claims Patent Services, Lexis-Nexis, Minesoft, Questel, STN International, and Thomson-Reuters. The vendors often provide "help desks" that you can rely on for assistance on technical and search related questions.

There are also additional vendors that specialize in providing specific content or specific tools, such as patent analysis tools. Examples of these include Innography, Intellixir, Matheo Patent, Search Technology (VantagePoint) but there are many others. It is often necessary to obtain specialized training (hours to several days) on each system before use.

## Search Firms

Landon IP has created a wiki on patent information resources called Intellogist. This is a very useful resource for getting summaries about products and their features as well as for sharing best practices about patent information.

## Certification

There have been many years of debate and research on the subject of certification. The EPO recently reported that major progress has been made on creating a professional qualification for patent information specialists, see http://www.epo.org/about-us/publications/patent-information/news/2009.html.

Certification related activities have also been found and benchmarked. Since 1985, INFOSTA (Information Science and Technology Association, Japan) has administered an examination for database searchers, which is structured upon three different difficulty levels. The success rate has been about 75% for the basic level, 40% for the intermediate, and 16% for the advanced level. The examination comprises common subjects for all candidates, plus some specialty subjects where one of those specialty subjects deals with patents.

The CEPIUG and the PDG have now agreed on the main features of a professional qualification for patent information specialists. They are working, also with PIUG, to set up a certification process and examination for conferring the title “Certified Patent Information Analyst” (CPIA) (*3*).

These associations have created several working groups to begin developing the examination process and to create the overall organizational structure for administering the exams. They are currently developing mock examinations in chemistry and engineering. Part A of the examination will test searching skills and Part B will test patent and literature analysis skills, particularly with respect to novelty, freedom-to-operate and opposition studies. At a later date, examinations may also be developed for other technical areas, such as biology or computer science. The idea of grandfathering experienced searchers may also be addressed in future discussions.

The associations have also begun to liaise with various organizations such as the EPO and the European Patent Institute (the Institute of Professional Representatives before the European Patent Office) (*4*). Additional attorney organizations and patent offices may be contacted in the near future to gather further support for the certification program.

Key contacts include:

Bettina de Jong – CEPIUG
Michele Fattori – PDG
Susanne Hantos – PIUG.

## Conclusions

There are many opportunities available for professional development in the patent information field. It is important for IP-related information specialists to know patent law basics, information science basics, and also to receive ongoing and very detailed instruction on various tools and content. It is up to each individual to anticipate and become aware of their training needs and the related opportunities.

Professional associations and information providers seem to provide the most frequent and the lowest cost opportunities. Certification of individual patent information professionals seems imminent, especially given the steadily increasing and international activity related to this effort.

The author was less familiar with trademark-related training and events. However, it is possible that similar opportunities exist in this area and are made available from similar organizations (information providers, associations, etc.).

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## Glossary of Acronyms

| | |
|---|---|
| AIDB | Associazione Italiana Documentalisti Brevettuali - Italian *patent* information users group |
| ARPAD | German patent office advisory group (working group on patent application and documentation) |
| CEPIUG | Confederacy of Patent Information User Groups in Europe |
| CFIB | Club Francophone d'Information Brevet – French speaking patent information users group, includes members from France, Belgium and Switzerland |
| CPIA | Certified Patent Information Analyst |
| EPO | European Patent Office |
| ICIC | International Conference for Chemical Information |
| INFOSTA | Information Science and Technology Association, Japan |
| IP | Intellectual property |
| IPDL | Industrial Property Digital Library, Japan |
| IPI-ConfEx | International Patent Information Conference & Exposition |

| | |
|---|---|
| IR | Information retrieval |
| IRF | Information Retrieval Facility |
| JPO | Japan Patent Office |
| NCIPI | National Center for Industrial Property Information, Japan |
| PATLIB | Network of European patent information centres |
| PATMG | Patent and Trademark Group, United Kingdom |
| PDG | Patent Documentation Group |
| PERI | Pharmaceutical Education & Research Institute, Inc. |
| PIF | Patent Information Forum, Denmark |
| PIUG | Patent Information Users Group, Inc. |
| PIUG PETT | PIUG Education and Training Taskforce |
| PIZ | Patentinformationszentren network - German library network |
| PTDL | Patent & Trademark Depository Libraries, U.S. |
| SIPIG | Swedish Intellectual Property Information Group |
| SLA | Special Libraries Association |
| USPTO | United States Patent and Trademark Office |
| WIPO | World Intellectual Property Organization |
| WON | Werkgemeenschap Octrooiinformatie Nederland – Dutch patent information users group |

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## Chapter 8

# Educating the Inventor Community

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The United States Patent and Trademark Office (USPTO) has provided education and outreach to independent inventors for many years and has recently expanded this role to include education and assistance to other members of the inventor community. Our outreach effort addresses the inventor community as two basic segments. The first of these segments is the individual inventor along with small, and micro-sized businesses and the second is non-profits and the university community. The USPTO has been providing different outreach and education to these two basic segments for a number of years. The following is an overview of some of those efforts that have shown success. We will emphasize the increased effort over the past three to four years working with the university community and ways that the USPTO has increased its outreach effort to the independent inventor community.

## University Outreach

Our university outreach program began in earnest during the Fall of 2006. The USPTO saw an opportunity to offer education and gain a strong presence on campuses that would be an asset for USPTO recruiting efforts. Since the initial outreach effort, we have spent three years conducting campus visits and will continue to do visits in the future, funding permitted. Beginning in Fall 2009, we moved toward providing more virtual visits and fewer actual visits. There were a number of reasons for this change. Our budget was curtailed due to economic conditions, our recruiting effort diminished for the same reason and the time constrains on our outreach staff was overwhelming.

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Our university outreach effort began with a single classroom experience. A presentation was made to a class of 55 students at North Carolina State one day prior to an on-campus recruiting visit. The lecture used current events to illustrate the effect of intellectual property (IP) on our daily lives. Of the 55 students at that lecture, we had eighteen provide resumes to the USPTO representatives at the job fair the next day. This information was relayed to members of our executive staff, and we were given the go ahead to begin a university outreach initiative. That outreach effort began with visits to ten universities during the Fall of 2006. Our initial effort was directed at universities where the USPTO had a well established recruiting effort. In addition, we have also targeted neighboring universities within easy driving distance.

The University outreach program has grown each year since that first fall. During the first academic year, Fall 2006-Spring 2007, we visited twenty-five universities providing eighty-eight lectures to approximately 3,500 students. The second academic year, Fall 2007-Spring 2008, saw an increase to fifty universities visited and 119 lectures to approximately 8,700 students. During the academic year 2008-2009, we visited 74 universities providing more than 180 lectures to approximately 11,000 students. The lectures were primarily given to engineering students, but we also gave lectures to business and entrepreneurship students upon request of the institution. At many universities, we provided lectures to faculty and staff about the state of IP protection in today’s environment. Additionally, we met with many individual faculty members about their inventions and how they could best meet USPTO requirements.

We have received positive feedback from our recruiting teams. Whenever a recruiting team followed our campus visit, a clear increase in students interested in employment at the USPTO was documented. Most of the students that show up at the USPTO recruiting booth now do not need an explanation of jobs at or the operation of the USPTO, as had been the previous norm. Additionally, we consistently receive e-mails from students and faculty inquiring about jobs or forwarding resumes for employment at the USPTO.

One of our newest initiatives is to meet with members of the technology transfer/manager staff to discuss how to best work with the USPTO. We sought to increase their understanding of what actually happens with their patent applications once they are filed From the information shared at these meeting, we are better able to understand the difficulties faced by universities in getting research from the faculty submission through the patent process and to commercialization.

Due to difficult financial limitations at the USPTO and due to the tremendous time required to visit universities, we were unable to coordinate with other members of the outreach team for five months during the 2008-09 academic year, the USPTO is reassessing future outreach plans. Our financial resources have not permitted an adequate budget for travel to all universities, so we are now concentrating our outreach effort through videoconferencing. We have contacted approximately 100 universities and colleges with information about the outreach program, and have followed up with phone conversations to try to establish a virtual visit network. We have provided each of the universities with our technical requirements and have made many successful presentations across the country.

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We currently have established relationships with a number of schools that have the ability to conduct videoconferences with the technical requirements set by the USPTO.

We are working with class professors where we established relationships to offer presentations about different IP topics. Each of these teleconferences is customized to the intended audience using input from the professors. Once we have completed the formal presentations, we offer a time for interactive questions and answers.

During one of many meetings with faculty, we were asked to come up with a way to assist in providing IP information to first-year engineering students. This initial discussion and many further discussions with additional faculty led to the development of four area specific videos, no longer than twenty minutes each, that are now available for free download from iTunes. These videos are intended to supplement classroom lectures in introductory courses in engineering. The subjects are broken into the basics of the law surrounding protection of IP and basic information on patents, trademarks, copyrights and trade secrets. These four videos have been available since February 2009 and have been downloaded thousands of times. The USPTO plans to offer additional topics in the future.

A number of our lectures have been captured electronically at various universities. We have also had a number of short interviews recorded by professors and students. Many of the lectures and interviews have made their way to YouTube and iTunes through university, professor or student websites. The USPTO is currently looking into the possibility of using different social media sites along with educational sites as possible mediums for continued outreach and education to the university community. Our long term goal is to interact with universities and independent inventors through these various social media sites.

## Individual Inventor/Small Business

A primary focus of our outreach is to provide assistance and education to independent inventors and small businesses. It is well established that small businesses are the lifeblood of the U.S. economy. Therefore, the USPTO has offered assistance to inventors and small businesses for many years. Our long term efforts have concentrated in the areas of customer interaction, web assistance and inventor conferences.

There are three ways customers can interact with personnel at the USPTO. The first is by calling our 800 number. Calls are received at a central call center and sorted according to the individual need of the caller. Some may need assistance from our legal area, others may need help in understanding how to file for patents in foreign countries, and others may need to know where to find out certain basic information for filing a patent or trademark. Each of these calls is forwarded to the correct area within the USPTO where answers are provided. We are able to collect information regarding the nature of the calls so that the USPTO can better assess what subject areas callers are having difficulty. This allows us to better serve our customers.

The second type of inventor interaction is through the independent inventor e-mailbox. On average the independent inventor mailbox receives approximately 120-130 questions weekly. Most of those questions receive a personal response from someone in the Inventor Assistance Program. Some questions cannot be answered because, e.g., they require a legal so they are transferred to those areas for response.

The third type of interaction with experts from the USPTO is through our bi-monthly on-line chats. These chats are advertised on our Web site and are open to anyone who registers. We use senior patent officials, trademark attorneys and others who have expertise in the examination of patents and trademarks. Over the past few years we have provided an average of close to 80 answers in each of our one-hour chat sessions. Normally we receive many more questions than we can answer so we are careful to choose questions that will appeal to the greatest number of people. We also create a transcript of the posted questions and answers along with questions that might require research or an answer from one of the areas not represented by the experts in the chat. The transcripts of the chat are posted at http://www.uspto.gov/inventors/independent/chats/index.jsp. We maintain a list of all the transcripts so they can be used as a resource for individual problems.

The USPTO created and continues to maintain one of the best government Web sites available. The USPTO home page contains a direct link to the independent inventor page at Inventors in the top bar. In addition to the on-line chat transcripts, there are answers available to questions about patents and trademarks. There is also a list of invention promotion companies that have had a complaint filed against them. These complaints may also have an answer from the invention promotion company. Links are provided to many other government websites along with inventor organizations designed to help individual inventors learn more about the patent process and what needs to be done once a patent is issued.

Recently, we added another aspect of training to the independent inventor page. Since we are unable to travel to every city and town to offer direct assistance to inventors, we now offer training videos. These videos are directed to various topics and range from basic to advanced in nature. All of the videos are compliant with Section 508 of the Americans with Disabilities Act.

Each year since 1996, the USPTO has held an Annual Independent Inventors Conference. These conferences offer assistance and education to individual inventors and small businesses through two days of information, instruction and interaction. The purpose of these conferences is to provide topical information about various subjects related to each individual's needs. There are sessions designed for inventors with limited patent prosecution knowledge up to advanced sessions designed to assist the seasoned patent or trademark filer. Our many guest speakers highlight topics such as: concepts-to-market, how to license IP, what companies might be looking for in new products, etc. The conferences feature inventors who discuss their inventions, how they have use the patent/trademark system to protect their intellectual property and what they have done to bring their inventions into the marketplace.

We are currently working with our Office of Governmental Affairs to schedule presentations in various congressional districts across the country.

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These events will be aimed at inventors and, micro and small businesses to offer information about federal, state and local resources. Plans are to provide topics from the USPTO, Small Business Administration, Department of Commerce, SCORE, Small Business Development Corporations and state level government agencies. We also hope to bring in local investment groups and other local resources to provide additional information from the local community. Plans are underway to create these as one-day events so as to allow the Congressional representative to be present.

We also conduct regional inventor conferences. These conferences are similar in scope to our Annual Conference. Our objective is to bring regional conferences to various sections of the country which will allow individual inventors who cannot attend our annual conference to benefit from the same type of information about patent and trademark protection as is provided at the annual conference.

The USPTO also provides speakers to various conferences around the country and at some international events. Currently, we have made visits to a majority of the states to offer assistance through this type of outreach and will continue to be involved in this outreach effort as we attempt to reach even more individuals in need of information about patent and trademark protection.

Participation in our annual and regional inventor conferences have grown each year. We consistently draw between 200-250 inventors and small business people to these events. Attendance struggled during the first four or five years of the conference with an average draw of about one hundred people. However, through information gathered from inventors each year, we have been able to improve the content of the conferences to our current level. We have added a pre-conference seminar to our annual conference to provide basic information to individuals so they are better prepared for the conference. We provide information that can be expanded as the conference progresses. Many conference attendees have moved forward with filing their own patent or trademark applications and starting their own businesses from the information provided.

Over the years, the USPTO has found the biggest gain from any conference we sponsor or attend is the personal attention provided to individuals. We have worked hard to gain the trust of individuals that are normally wary of trusting anyone. One of the most heard remarks is that “it is nice to know that you are human and are willing to help.”

In conclusion, the goal of the USPTO’s outreach effort is to educate, support and inform individuals, micro and small entities, non-profits and universities about how to get the most from the U.S. patent and trademark system, and how to best work with the USPTO. We provide technical assistance with application preparation, assist in resolving issues and help our stakeholders understand the IP statutes and rules. Most importantly, the USPTO delivers the message of the importance of IP protection for a small and independent inventor.

The USPTO educational programs at many universities have allowed us to have a direct presence on campuses. We have had the opportunity to provide information about intellectual property, especially patents and trademarks, so that professors, staff and students are better informed about their choices in protecting their intellectual property and potential careers. This presence has also given some

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of the newest members of the community of inventors, entrepreneurs and business people an opportunity to learn more about what may be of use in their lifetime.

We have only reached a small portion of our targeted population. The expansion of our outreach programs will allow us to fulfill our mission through cooperation with local, state and federal agencies, through public-private partnerships, through increased use of social media outlets and specialized training directed at universities and non-profits, inventors and micro and small businesses.

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## Chapter 9

# The PERI Patent Information Course

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In 1989, the Patent Committee of the Pharmaceutical Manufacturers Association's Information Management Subsection introduced a course on the fundamentals of patent law and patent information resources. The course was developed because existing patent search training covered only database content and search techniques, while training in basic patent law and principles was left to informal interactions with mentors and colleagues. The course continues to be presented under the auspices of the Patent Information Users Group, filling the training gap for new patent searchers in the 21st century.

In 1987 one of the members of the Patent Information Committee of the Information Management Subsection of the Pharmaceutical Manufacturers Association (PMA) brought a request from his manager to the committee, "Could the committee design a training program for patent searchers?"

The Pharmaceutical Manufacturers Association had two functions: to promote the United States prescription pharmaceutical industry through public relations and lobbying activities and to share knowledge and understanding of the various aspects of running a pharmaceutical company among the member companies of the various aspects of running a United States pharmaceutical company. Representatives of the PMA member companies served on committees and held seminars and conferences. Most PMA member companies employed scientists as patent searchers, individuals who worked within the pharmaceutical companies for patent law departments, scientific libraries or research and development organizations, performing searches of the scientific and patent literature using online databases that were unavailable to most scientists

In Special Topics in Intellectual Property; Twiss-Brooks, A.;
ACS Symposium Series; American Chemical Society: Washington, DC, 2010.

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and attorneys (*1*). Patent searchers needed specialized knowledge of search techniques, database structure and content, chemical and biological science, patent law, and pharmaceutical industry regulations. Training of newly hired searchers depended on the availability of more experienced searchers to act as mentors, and many companies had no one with the required breadth and depth of experience to provide the training. It was clear that creating a pool of trained patent information scientists would benefit the PMA member companies.

The PMA Patent Information Committee was ideally qualified to create such a course. Members of the committee were information scientists from ten or twelve PMA member companies, all with years of experience in meeting the information needs of corporate researchers, managers and attorneys, and most with experience managing and mentoring their company's information scientists. The Patent Information Committee had created a database of patents on established drugs, distributed on paper under the acronym POMP – Patents on Medicinal Products – and had done a study of the available patent databases (*2*). The members of the committee were excited by the challenge of defining the training needs of patent searchers and designing a course to introduce new searchers to the information they would need to do their jobs.

## Why Patent Information?

Patent information is important to the pharmaceutical industry and other industries involved with science and technology. Patent searches are done to learn about science and technology, especially to learn about recent advances, which are often published in patent documents before they are described in scholarly journals. Searches are essential if a company wants to confirm that it has freedom to practice an invention in the marketplace and to avoid being sued for infringing a patent belonging to someone else. Searches of both patent and nonpatent literature are done before filing patent applications to ensure that inventions are patentable. Searches of patent and nonpatent literature are done to oppose or invalidate patents belonging to competitors. Patent searches are part of the due diligence process involved in mergers and acquisitions. And patents are useful for obtaining competitive and technical intelligence.

## Why Patent Searching Is More Difficult than Searching the General Literature

Patents differ from ordinary scientific publications in many ways. The vocabulary of patents tends to be more generic than ordinary technical language, using terminology broad enough to extend the legal scope of patent protection beyond the specific examples. Patents are limited in scope to a single country or patent granting authority, and patent owners often file patent applications in many countries, resulting in a family of equivalent patents. Patent laws vary from country to country, and members of the patent family can differ in scope and status. Patentability, validity and invalidity searches should be comprehensive,

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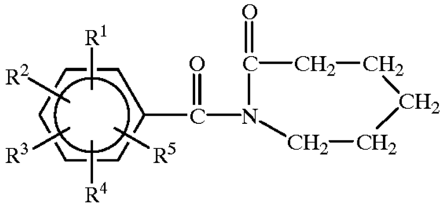
requiring that the searcher be familiar with a multitude of information resources and search techniques (*3–5*).

The complexity of patent searching for pharmaceutical inventions is increased by the custom of describing a class of chemical structures in patents in the format of a "Markush structure." Named for an inventor whose patent application was involved in a landmark legal decision, a Markush structure consists of an invariant core structure bearing one or more variable substituents. Eugene A. Markush received U.S. Patent 1,506,316, for an invention based on a relatively simple generic structure, but much more complex Markush structures are common in chemical patents. A patent claim containing a typical Markush structure is shown in Figure 1.

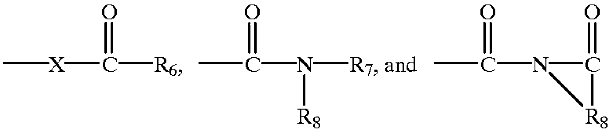
1. A laundry bleaching system comprising:

i) at least about 0.1% by weight of a peroxygen bleaching compound; and

ii) at least about 0.1% by weight of a substituted benzoyl caprolactam bleach activator having the formula:



wherein $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are members selected from the group consisting of H, halogen, $NO_2$, alkyl, alkoxy, alkoxyaryl, alkaryl, alkaryloxy, and substitutents having the structure:



wherein $R_6$ is selected from the group consisting of H, alkyl, alkaryl, alkoxy, alkoxyaryl, alkaryloxy, and aminoalkyl; X is O, NH, or $NR_7$, wherein $R_7$ is H or a $C_1$–$C_4$ alkyl group; and $R_8$ is an alkyl, cycloalkyl, or aryl group containing from 3 to 11 carbon atoms; provided that at least one R substituent is not H.

*Figure 1. A typical Markush structure, US 6,197,737 B1*

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Searching databases for compounds embodied by a Markush structure is more complicated than searching for individual compounds. Fragmentation codes and topological search systems have been devised, and the search systems available in the 1980's were either proprietary or newly introduced (*6–14*).

## Design of the PERI Course on Patent Information for Pharma/Biotech

The PMA Patent Information Committee set to work evaluating the knowledge that was needed to search and evaluate patent information. They designed a 3-day course that would use all of the members of the committee as instructors for the parts of the course covering information resources and search techniques. Patent attorneys from corporate patent law departments would teach about patent law.

The original assumptions underlying the course design were that attendees would be intermediary searchers working for pharmaceutical companies and individuals managing the searchers or using the results of patent searchers. The individuals were expected to have degrees in science, be familiar with chemical notation, and be relatively new to patent searching. It was assumed that attendees would already be familiar with online databases and search systems. The course would teach the outlines of patent law and the appropriate approaches to various types of patent searches. An overview of the content and indexing systems of databases and other information resources would be included, but training in the "nuts and bolts" details of the databases and search systems, which were already available from database producers and vendors, would not.

## Course History

The course was presented in Arlington, VA, in 1989 as the first offering of the newly formed PMA Education and Research Institute (PERI). The chair of the Patent Information Committee served as Course Director and a PERI employee was appointed as Course Manager, responsible for logistical aspects of the course. Attendance was limited to 30 people. The course was well received, and PERI offered to repeat the course on a regular basis, but several faculty members were uncomfortable with their roles as instructors and retired from the committee.

The creation of PERI was not the only change in the management of PMA. In 1994 PMA was reorganized as PhRMA, the Pharmaceutical Research and Manufacturers Association. The complex committee structure was discontinued and the educational activities of PMA were concentrated in PERI, which became the nonprofit Pharmaceutical Education and Research Institute. The Patent Information course continues to be presented every year or two, but without sponsorship by PhRMA or its member companies and with a reduced faculty. The course is open to individuals from all industries, and there is somewhat less emphasis on pharmaceuticals. With the passage of time, the curriculum has been modified to reflect new and changed patent information resources. Modules on biotechnology and patent analytics have been added as those topics have

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become important. In 2010 PERI set about reevaluating its course offerings, first shortening the course to two days, eliminating supplementary activities and shortening some of the presentations in order to reduce costs and time attendees and faculty members were away from their offices, and then reconsidering whether the patent information course was a good fit with the rest of its offerings. The Patent Information Users Group (PIUG), a nonprofit organization for patent information professionals, offered to take over the course, which is a perfect fit for its mission, to support, assist, improve and enhance the success of patent information professionals through leadership, education, communication, advocacy and networking. PIUG added a presentation on searching mechanical and electrical patents, and renamed the course Patent Information Fundamentals, presenting it for the first time in October, 2010.

## Curriculum of the PERI Patent Information Course

The presentations in the course are as follows. There have been changes and modifications over the years, each faculty member reviews the presentations and updates them in accordance with changes in the law, technology and available resources.

What is a Patent?

- Brief history of patents
- Historical roots of patents
- Paris Convention and international priority rights
- Variability of national patent law, US vs. foreign
- Concept of intellectual property
- Intellectual property vs. real property and personal property
- Definitions: patents, trademarks, copyrights, trade secrets
- Limitation of rights conferred by patents to the exclusion of others
- Types of processes, and products protectable by patents
- Concept and definition of invention
- Types of processes, and products protectable by patents

Basics of US patent law

- Brief history
- Subject matter & criteria for patentable inventions
- Types of patents, definitions
- Obtaining a patent
- Getting and keeping a patent (litigation)
- Strategic uses of patents
- Recent and projected changes in U.S. patent law and practice

The Basics of Patent Law Outside the US

- Patent system differences
    - Changes in foreign patent laws
- Significant treaties
    - Paris Convention
    - European Patent Convention
    - Patent Cooperation Treaty
- Contrasts of most foreign patent laws with US law
    - (Publication of unexamined applications before 2001)
    - First to file
    - Lack of grace period
    - Lack of C-I-P practice
- Moves toward harmonization
- Applying a knowledge of foreign practice

Why search patents?

- Information content as description of how to make and use a new product or process
- Legal importance as units of intellectual property
- Types of questions answered with the aid of patents
- Overview of patent literature

Patent information resources

- Overview of online information industry
- Database Producers
- Data vendors and sources
    - Online
    - WWW
    - CD-ROM
    - Print
- Resources for subject searching
- Resources for patent family information
- Resources for legal information
- Current Awareness resources
- Future trends

How to read a patent

- Parts of a patent
- Bibliographic and business data
- INID codes
- Legal information
- Technical information, not protected unless covered by claims
- Variability of patent documents within a family
- Interpretation of patent claims

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Patent term extensions and adjustments

- Market vs. patent protection
- Supplementary market protection in the US
    - Patent term extensions: Hatch-Waxman, other types
    - Regulatory exclusivity
    - Orphan drug status
    - Veterinary products
- Supplementary market protection in other countries
    - Supplementary protection certificates for EPO patents
    - National supplementary protection in Europe
    - Supplementary protection in Japan
- Shortening the life of a patent
    - Terminal disclaimers
    - Maintenance fees
    - Revocation
- Information Sources

How to find the patent status of a drug (or other chemical substance)

- Scope of patents to be considered
- Claims to compounds, processes, formulations, and uses
- Importance of considering the legal status of the patents
- Sources of patent status information
- Suggested search strategies for small molecule drugs

Overview of patent searching techniques

- Patent literature vs. journal literature
- Computerized sources of patent information
- Subject searching and classification
    - General guidelines
    - Text query formulation
    - Patent classification codes
- Author/patentee searching
- Patent equivalency searching

Biotechnology patents and sequence searching

- Biotech patent search and challenges
- Sources of sequence information
- Searching genes, pathways, proteins and organisms
- Considerations on searching and analysis
- Reporting and data presentation

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Chemical structure searching

- Chemical structures in patents
    - Specific compounds
    - Markush structures
- Chemical structure indexing and searching
    - Topological searching
    - Fragmentation code searching
    - Process or reaction searching
- Search engines and databases used for structure searching
- Other considerations

Special topics in patent information –changed over time

- Japanese Patent information
- Patent information from other Asian countries
- Patent document delivery
    - Originally “CD-ROM products and document delivery”
- Nucleic acid and protein sequences in patents
    - Later upgraded to full presentation
- ECLA coding –what it can do for you

Reporting search results

- Considerations when reporting results
- Results to report
- Other information to be included in a report
- Suggestions for interpretation of search results
- Search report example

Technical Intelligence and Patent Mapping

- Uses of technical intelligence
- Overview of available patent mapping software
- Demonstration of Mapping software
- Integration of Output into a Technical Intelligence Framework

Wrap-up –how to keep up to date

- What to read
- Conferences to attend
- Organizations to join

Supplementary activities have included a networking reception with representatives of patent database producers and vendors, visits to the United States Patent and Trademark Office facilities, and a guest speaker, Gerald J. Mossinghoff, Visiting Professor of Intellectual Property Law, The

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George Washington University, former Assistant Secretary of Commerce and Commissioner of Patents and Trademarks, and former President of PhRMA, who gave a luncheon address entitled "Worldwide Protection of Intellectual Property."

Certificates of attendance are presented. In addition, PERI has standard arrangements for Continuing Education Credit from the American Council on Pharmaceutical Education and the Accreditation Council for Continuing Medical Education. Those continuing education credits will not be available under PIUG's management, but this is not considered to be a problem, as few of the students requested the credits. There is not currently a certification scheme for patent information specialists, but there is work underway within the Patent Information Users Group (PIUG), the Confederacy of European Patent Information Users Group (CEPIUG), and the Patent Documentation Group (PDG) to create such a scheme, and PIUG's Patent Information Fundamentals course will be an approved training or continuing education program if and when the certification program becomes effective.

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## Chapter 10

# Education and Certification of Patent Information Professionals in Europe

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The work of the patent information professional is central to the patent system from identifying the prior art necessary to establish the patentability of an invention, through determining freedom to operate within a given territory, to helping to detect infringement of IP rights and providing support for proceedings against alleged infringers. But how does one learn the skills involved and, perhaps more importantly, how can an individual demonstrate that they possess the necessary knowledge and experience to conduct patent information work competently and reliably?

Although University courses exist which include modules for IP education, these are scant basis on which to equip the student with the wide range of knowledge about search systems and languages, databases, patent systems, claims construction, etc. required to be considered a competent professional. In practice, this knowledge has traditionally been acquired and accumulated through experience and learning "on the job". There is a need both for a formal education program to sit alongside the experience gained in practice, and an agreed standard to provide formal recognition of the knowledge, skills and experience vested in the competent patent information professional.

A description is given here of initiatives in Europe to formalize the education of tomorrow's patent information professionals and put in place a system to assess and certify both existing and aspiring patent information professionals to assure the necessary quality required for the future health of the patent system.

In Special Topics in Intellectual Property; Twiss-Brooks, A.;
ACS Symposium Series; American Chemical Society: Washington, DC, 2010.

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## Introduction

Patent information professionals, whether in industry or within the growing freelance sector, provide a key role within their organizations. They are responsible for identifying and analyzing information relevant to different business situations which enables clear understanding and most effective use of that information. Without a clear structure to the training of search professionals, or a professional register, it can be difficult to determine the competence of the patent information professional to conduct patent information work.

Industry in Europe loses billions of Euros each year through duplicated research and the subsequent rejection of patent applications because of lack of novelty or inventive step. There is no shortage of information about patents, but few people – even in the wider information profession – have achieved the necessary competence to ensure that research-based industries are achieving the maximum benefit from it.

The formation of the Confederacy of European Patent Information User Groups (CEPIUG) has resulted in two working groups who, in conjunction with other bodies, are looking at the education and certification of patent information professionals in order to establish good professional standards to help improve this situation.

## The Patent Information Professional's Role

There are many descriptions of the role of a patent information professional, but one of the best is provided by Stephen Adams, the Chair of the former Certification of Patent Searchers group (COPS):

> *"The task of the professional patent searcher is to understand the complex mix of science, law and information retrieval skills which enables the industrial user to make sense of the documents and to exploit their contents effectively"* (*1*)

A formal definition of the role of a Certified Patent Information Analyst (CPIA) has been developed by the CEPIUG which captures the elements on which an education and certification program will be based. The CPIA is:

> *"A specialist in the retrieval and the analysis of scientific, technical, business, and legal information that is relevant for establishing the knowledge and legal status in the field of patents, according to main legislation worldwide"*

## Types of Search

The work of a patent information professional involves identifying relevant information pertaining to different business situations. These include

- Defining the general state-of-the-art in a given technology area for general business purposes such as research planning or competitive awareness
- Establishing whether an invention is new and therefore patentable
- Determining freedom to operate business in a particular area and identifying any potential infringement risks
- Determining the validity of a potentially blocking patent where a risk is identified

Distinct search types are associated with each of these scenarios.

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### State-of-the-Art Search

A State-of-the-Art search is intended to allow someone to determine quickly what new processes and products are being developed and by whom in a given technical field. It has been shown that 80% of technical information is disclosed only in patents (*2*), so this type of search involves searching mainly patents information, but can include other sources such as scientific journals, books and so on. Also, patent documents describing one particular invention may be published in several different countries, therefore only a representative example is generally required. There is often a vast amount of information available and therefore it is crucial to understand what is being asked for before beginning this type of search.

### Novelty/Patentability Search

Amongst others, it is a general requirement of patent law that for an invention to be patentable it must be new and contain an inventive step. The Novelty search is conducted when there is interest in patenting an invention and therefore there is a need to establish whether anything similar or identical has been previously disclosed to the public, in any manner, at any time. Alternatively, a Patentability search which considers both novelty and the inventive step may be performed.

### Freedom-to-Operate/Infringement Search

The purpose of this type of search is to prove that a proposed process or product does not violate any active patents in the areas where it is intended to operate the process, or manufacture and/or sell the product. If active patents are identified, the risk can then be assessed and appropriate business decisions taken.

Since it is necessary only to identify active patents, this type of search is generally confined to searching patents which are in force – that is granted, maintained and not older than the prescribed patent term for that jurisdiction (generally 20 years). Selection of relevant documents is based on interpretation of the claims since it is these and not the descriptions found elsewhere in the patent which would determine the likelihood of infringing that patent.

### Validity Search

This search type is usually invoked where a patent has been identified that poses a definite infringement risk, or where a company is actually being sued by the owner of the infringed patent. The purpose of a Validity search is to provide evidence that can be used to demonstrate that the claims of the problem patent are invalid, generally on grounds of novelty. If a patent search can locate prior art that reads on the claims of the patent in question, those claims will be disallowed and removed from the patent. The patent owner then loses the legal right to sue over products or processes that would infringe on those claims.

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## Patent Information Professional Requirements

There is a range of knowledge and skills required in order to be a competent and effective patent information searcher.

A knowledge of databases is necessary to understand the appropriate sources of information to consult for the differing search types already described. Amongst other considerations, an understanding of the coverage of document type (invention patent, utility model patent, patent application, granted patent etc.) and coverage by country and by time is all essential in effective searching.

A good understanding of the various search systems and search languages available is necessary to enable efficient and effective searching and analysis of information.

An understanding of the relevant technical area under consideration is necessary in order that the correct keywords, index terms and classifications can be selected and a good selection of relevant documents made from those retrieved by the search.

Knowledge of relevant patent law is also required to ensure the correct type of information is searched and in selecting relevant documents for further analysis.

Alongside this knowledge base, the competent patent information professional must have excellent interrogation, communication and presentation skills. Further useful attributes include the tenacity and patience to see a complex and lengthy search through to completion, and the confidence and courage to stand by the results of the completed work.

## Historical Initiatives Towards a Certification of Patent Information Professionals

During the European Patent Office EPIDOS conference in 2002, a round table discussion about the patent information profession took place. Christoph Haxel, at that time the Chair of the Patent Documentation Group (PDG), brought in for the first time the idea of Certification of Patent Information Specialists in Europe. This led ultimately to the formation of the PDG ad hoc Working Group on Training and Education of Patent Searchers in June 2005 with the objective of defining the requirements for a skilled patent searcher in order to develop a training program and certification process for new entrants to the profession.

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Around the same time, an independent initiative arose to place the education, training and practice of professional patent searching on a sound footing which was driven by Stephen Adams and resulted in the formation of the COPS group (in the beginning, the acronym was for the Certification of Patent Searchers, and this was later renamed to the Committee of Patent Search Standards). In the COPS group, many representatives came together from different disciplines to discuss the pros and cons of EU-wide certification.

Since then informal contacts between the various different European patent information user groups have taken place on many other occasions and many opportunities for cross-contact between user groups have also since arisen. The Dutch group Werkgemeenschap Octrooiinformatie Nederland (WON) was present at the foundation meeting of the Italian group Associazione Italiana Documentalisti Brevettualli (AIDB) in Vignola during 2004. PDG and the UK group Patent and Trademark Group (PATMG) representatives attended AIDB meetings in 2005 and 2006, respectively. WON and AIDB representatives were invited to the French group Club Francophone d'Information Brevet (CFIB) meeting respectively in 2005 and 2006 and representatives from CFIB, PATMG, the Danish group Patent Information Forum (PIF), AIDB and the US-based Patent Information Users Group, Inc. (PIUG) were also invited to the WON's 30th Anniversary meeting in November 2007.

The idea of forming a Confederacy of the various European user groups was first discussed during the IPI-ConfEx conference in Athens in March 2006, followed by a second meeting at the European Patent Office Patent Information Conference (EPOPIC) in November 2006.

Throughout the next year, CEPIUG regulations and a Board were proposed, with the official foundation of the CEPIUG taking place on March 6th, 2008, in Sevilla, Spain at IPI-ConfEx 2008.

The purpose of CEPIUG is to be a platform for cooperation for the patent information user groups in Europe. Its goals are to share experiences, discuss topics relevant to all through exchange of opinions, to promote and support the setting up of new (national) user groups, to promote training activities and to support certification of the profession.

The principal means of achieving the goals of promoting training and supporting certification is through the formation of two working groups engaged in each of these activities:

- Training and education working group
  - The goal is to set-up training all over Europe in order to prepare students for future certification
- Certification working group
  - The goal is (together with PDG and PIUG) to find ways to establish a Certification for Patent Information Specialists

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## Existing Education/Certification Initiatives in Europe

There are plenty of training courses in Europe for students of Intellectual Property Law. There are also plenty of courses run by database producers and online information hosts on database content and search language and techniques. However, there is a dearth of courses combining these elements which are required to train a fully rounded competent patent information professional.

The main training initiative in Europe for patent information professionals is offered by GO Opleidingen under the auspices of the WON Dutch Online User Group. This patent information specialist training consists of four modules designed to provide students with a solid knowledge of patent information in general. Particular attention is given to patent searches, legal aspects and the accessibility and retrieval of patent information. The training is offered over 18 days, divided over 5 weeks, with an additional 7 to 10 hours of study required per week.

There is a European project directed towards certification of information professionals in general called CERTIDoc. The main objective of the CERTIDoc project is to ensure consistency between all the mechanisms for certifying information-documentation professionals at the European level. The CERTIDoc consortium certifies a national CERTIDoc organization and it is this national organization that certifies the national information professionals. Currently, national affiliates exist in Germany, France, Spain and Italy. However, there is no equivalent mechanism as yet for certification of patent information professionals.

## Current Situation

Much progress has been made towards creating a professional qualification for patent information specialists. Agreement between the PDG and CEPIUG has been reached resulting in one common approach and cooperation of the PDG and CEPIUG Working Groups. Alignment with the PIUG in the US is also in progress. The main goal is to set up a certification process conferring the title "Certified Patent Information Analyst" (CPIA).

The working group set up to continue work on this project is currently putting together a description of the knowledge and skills required to become a CPIA and drawing up a set of examinations to test these. Working together with the PDG & PIUG, 31 volunteers have been identified who will draft examination papers for mock examinations to be arranged during 2010.

These mock examinations will be a significant step towards creating a recognized professional qualification in the field of patent information.

## Future Developments

Although substantial progress has been made, much work remains to realize the goal of putting in place the CPIA qualification and the associated education program. This includes:

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- the identification and agreement of an international examination and certification issuing body;
- the establishment of the title and definition of the profession that is associated to the certification/examination scheme;
- garnering support for examination from the profession; and
- resolution of outstanding questions such as "Grandfathering" and consideration of whether certification need only be attained once during one's career or whether a continuing education scheme is needed.

The goal is ambitious and achieving it will not be easy. Despite the challenges faced, the journey ahead is an exciting one. All of those involved in this effort believe that pursuing the final destination is not only worthwhile, but central to the future of the whole patent information profession.

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# Subject Index

**A**

Associations and learning, 62

**B**

Bundle of rights and copyright, 17

**C**

Careers
  intellectual property, 35
  patents
    agents and attorneys, 38
    consultancy, 39
    copyright, 41
    examiners, 39
    IP and IT, 39
    occupations, 37
    scientists, 37
    searchers, 37
    trademarks, 40
Certification
  and learning, 67
  patent information professionals, 90
Clearance and trademark, 21
Comprehensive trademark searches, 27
Conferences and learning, 64
Continuous learning, 57
  associations, 62
  certification, 67
  conferences, 64
  information and tool providers, 66
  libraries, 61
  mentoring, 58
  patent offices, 66
  patenting authorities, 66
  search firms, 67
  sources, 58
  universities, 60
Copyright
  basics, 13
  bundle of rights, 17
  expression dichotomy *vs.* navigating the idea, 15
  information age, 5
  and libraries, 8
  marking, 18
  ownership, 16
  protection, 15
  registration, 18
  subject matter, 13
  works, 15

**D**

Descriptive trademarks, 24
Doctrine of fair use, 9, 19

**E**

Education and inventor community, 71
Enforcement strategies and trademarks, 28, 31
Europe
  patent information professionals, 87
    certification initiatives, 92
    current situation, 92
    developments, 92
    education initiatives, 92

**F**

First-sale doctrine, 9

**G**

Generic terms, legal status, 26
Geographic priorities and trademark, 29
  tier one, 30
  tier three, 30
  tier two, 30

**H**

House marks, 28

**I**

Information

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Publication Date (Web): December 1, 2010 | doi: 10.1021/bk-2010-1055.ix002

sources, 36
  and tool providers, 66
Information age, 6
  copyright, 5, 8
Intellectual property
  careers, 35
  information, 1
  limitations, 2
  scope, 2
Interviews with professionals, 45
  patent agent, Tom Evans, 45
  patent attorney
    Justin Hasford, 50
    Michelle Bugbee, 52
    Sandra Kim, 46
  patent educator
    Katherine J. Strandburg, 55
    Mark David Janis, 54
  patent searcher, Bonnie L. Bacon, 48
  technology specialist, Jennifer V. Blount, 51
Inventor
  community and education, 71
  individual, 73
IP. *See* Intellectual property

**L**

Learning, continuous, 57
  associations, 62
  certification, 67
  conferences, 64
  information and tool providers, 66
  libraries, 61
  mentoring, 58
  patent offices, 66
  patenting authorities, 66
  search firms, 67
  sources, 58
  universities, 60
Legal status of generic terms, 26
Libraries
  copyright, 8
  learning, 61

**M**

Marking and copyright, 18
Mentoring and learning, 58
Misperceptions and trademark, 32

**N**

New brand, 22
Non-patents and patent, 36
Non-verbal trademarks, 25

**P**

Patent
  authorities, 66
  careers, 37
  information, 78
    pharma/biotech, 80
  interviews with professionals, 45
  and non-patents, 36
  offices, 66
  search and general literature, 78
Patent information professionals
  certification, 87, 90
  education, 87
  Europe, 87, 92
  requirements, 90
  role, 88
  search, types, 88
    freedom-to-operate/infringement search, 89
    novelty/patentability search, 89
    state-of-the-art search, 89
    validity search, 90
PERI. *See* PMA Education and Research Institute
Pharma/biotech and patent information, 80
Pharmaceutical Manufacturers Association, 77
PMA. *See* Pharmaceutical Manufacturers Association
PMA Education and Research Institute
  patent information course, 77
    curriculum, 81
    design, 80
    history, 80
    pharma/biotech, 80
Professionals and interviews, 45

**R**

Registration
  copyright, 18
  strategies and trademark, 28, 31

Downloaded by 89.163.35.42 on June 21, 2012 | http://pubs.acs.org
Publication Date (Web): December 1, 2010 | doi: 10.1021/bk-2010-1055.ix002

**S**

Screening searches and trademark, 27
Search firms and learning, 67
Small business, 73

**T**

Technical trademarks, 23
Tool providers and information, 66
Trademark
  clearance, 21
  descriptive terms, 24
  geographic priorities, 29
  misperceptions, 32
  occupations, patents, 40
  priority matrix, 29*t*
  protected
    house marks, 28
    key brands, 29
    sub-brands, 29
  registration
    enforcement strategy, 28, 31
    strategies, 28, 31
  searches, conducting
    clearance, 26
    comprehensive trademark, 27
    follow-up, 28
    screening, 27
    starting, 26
  selection, 21, 23
  spectrum
    descriptive terms, 24
    generic terms, legal status, 26
    non-verbal trademarks, 25
    technical trademarks, 23
  use, 21

**U**

Universities and learning, 60
University outreach program, 71

**W**

Works and copyright protection, 15

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Publication Date (Web): December 1, 2010 | doi: 10.1021/bk-2010-1055.ix002